THE

OHIO CULTIVATOR.

A Monthly Rural Journal.

VOLUME XXII---1866.

EDITED BY

S. D. HARRIS and WILLIAM B. FAIRCHILD.

CLEVELAND, OHIO:
PUBLISHED AT THE OFFICE OF THE OHIO FARMER.
1866.

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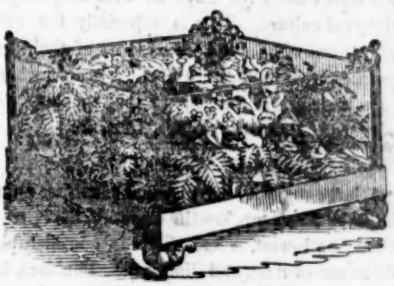
OHIO CULTIVATOR.

A Monthly Journal for the Farm and the Family.

S. D. HARRIS, W. B. FAIRCHILD, } Editors. Terms, { FIFTY CENTS A YEAR. In Advance.

Vol. XXII. CLEVELAND, JANUARY, 1866. No. 1.

The Horticultural Department.



WARDIAN CASES.

Now that the cold season has put an end to out door floriculture, the field of operation is transferred to the window within, where many a little beauty may be made to bless the eye and refresh the heart. Pot plants standing open upon stands or in the window breast, are greatly admired and cherished by most people, and well repay the care necessary to their cultivation. But plants thus exposed to dust and the dry atmosphere of a stove room, suffer for the want of that cleanliness and moisture which are essential to their best condition.

A very simple contrivance, figured above, called a Wardian Case, (from the name of Mr. Ward, the inventor,) will protect plants from dust and at the same time retain a plentiful moisture for the growing of the most delicate varieties of ornamented leaved plants, which cannot be kept in open pots. These Wardian cases are made in various forms and styles and of various sizes, the one figured above being a plain square frame, with glass sides and top.

The philosophy of the thing is, that being a close glass case, the moisture exhaled from the plants and also from shallow dishes of water set within the case, cannot escape, but forms such a humid atmosphere within, that the plant assumes a delicate green color, and being perfectly protected from dust and also from atmospheric changes without, it exhibits the most pleasing form of vegetable life of which it is capable. And this, too, in the depth of winter, is in striking contrast with the sere and dormant face of nature without.

A Great Magnolia.—On the grounds of M. B. Bateham at Painesville, we saw a specimen of the *Magnolia acuminata*, (commonly called cucumber tree,) which appeared so remarkable in size that we put tape line and pole to ascertain its dimensions. This tree is standing in the open ground near the dwelling, and has the stockiness of a second growth, rather than an original forest tree. At four feet from the ground the girth of the trunk is fourteen feet nine inches. It is twenty-four feet to the lowest branch, and by estimation, the whole elevation of the tree is seventy-five feet. The entire height is not remarkable, but the size of the trunk excels anything we ever saw before in this variety of the magnolia.

Camellias in Winter.—Those who grow Camellias must supply them moderately with tepid water when in flower, and for those out of flower, the warmest position must be given to induce them to make an early growth.

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For the Ohio Farmer and Cultivator.

ON GRAPE SOILS.

From the Ad interim Report of the Ohio Pomological Society; by DR. J. A. WARDER, Pres't.

This is a topic which has very properly attracted a great deal of attention among Grape-growers, and upon it some of the best talent of our pomologists has been bestowed. The great question is what soils are best adapted to *viticulture*. In the solution of this important problem, we find that a great diversity of opinions prevail among men who are distinguished for their acumen in observation, as well as for their superior judgment in deciding grave questions. Before coming to any hasty conclusions perhaps it will be well for us to consult the oracles of Dame Nature. Was she not the first great vine-planter? and surely she should know something of the wants and tastes of her proteges, having had the greatest and most extended experience of any of us.

Our information derived from this source shows us that the grape vine may be found growing on various soil formations of the world. We find them on bare rocks, that appear destitute of earth, except in their crevices; we see them thriving with luxuriance upon gravels, on clays, on mucky soils, on the richest alluvials on the river bottoms; on sands; and even on the sand-bars of some of our streams as well as on the shores of the ocean, we find grape vines. Some of these soils contain lime in abundance, while other are nearly destitute of this element. Potash being one of the constituent of every soil upon which this plant is found to thrive.

Geologically these plants appear to be equally diverse in their selection, for they are found upon the granites of Arkansas; upon the trappean rocks of Europe and Asia; upon the modern volcanic scoria of Italy, and of the Western Islands; upon all limestone formations of whatever age and character; upon the shales and sand stones of the coal measures; upon the chalk prairies of the Southern States; upon the tertiary sands and clays of the Atlantic coast, as well as those of the great Western plains; and upon the half-formed tufaceous rocks —while the great drift formation with its varying gravels and sands and clay diluvions, as well as the more finly comminuted alluvions also have their grape vines.

So much we may learn from the study of Nature. It amounts to this: Every rock, every soil, in a suitable climate, may produce the vine. But, further if we properly observe and study Nature, we shall find that each soil has its peculiar kind of grape, which would appear naturally, to be better adapted to this than to any other situation—and this fact may become a matter of great practical vaule to the vine-planters.

In this view it will become very important to study the natural soil of each species and variety of the grape we may desire to cultivate and thus to ascertain which varieties may be most likely to be best adapted to, and prove most successful in our locality. Still, we shall have abundant exercise of our powers of observation, for, we must experiment and decide by that rigid test.

As a general proposition, the majority of observers—and they to whom we look with confidence for an answer to the question of soil—will direct us to the clays as best adapted to vineyard culture. This is especially the case with those who have derived most of their experience from the culture of those grapes which trace their origin directly to the species, *vitis labrusca*. [Catawba, Diana, Iona, &c.]

THE LAKE SHORE DRIFTS.

A large majority of the vine-planters upon the Lake Shore prefer stiff clays. This is true in the South-west, where there is considerable admixture of lime, and limestone boulders, in the clay; and it is equally true of those who reside toward the North-eastern limit of the State, where the clays are derived in a great degree from the aluminous shales of that region upon which they rest, and where the proportion of lime is quite small. By the most intelligent and the most observing, as well as the most successful cultivators of this region we are told to select the clays. No matter how stiff, no matter how close, no matter how perfect a water bed—if it be even poor, hard white clay that has naturally produced a forest of large white oaks, or if it has been a hickory flat—they tell us that it is good grape land, needing only thorough drainage to make it yield abundant crops, especially of the Catawba grape.

In the neighborhood of Sandusky, on the Peninsula north of the Bay, and upon some of the Islands, rich clays of this character are to be found, which have been devoted to the grape, and upon them the vine has been eminently successful. And it is a very common opinion,

after many years experience, that the clay cannot be too hard and compact for the roots of the grape to penetrate.

It is somewhat remarkable that wild grape vines, growing in the greatest luxuriance, are not always safe guides to the vine planter, though often referred to by writers as an index directing the attention of the settler of a new country to the propriety of grape culture. This is probably because we do not plant varieties to which the soil is equally congenial; and this will be appreciated by those who adopt the views already advanced respecting the adaptation of soils to varieties.

The pioneer planter of the Lake region even declares that those vineyards which were prepared in the most thorough manner by trenching, always heretofore recommended, are the most unsatisfactory in their results, and that the best and most productive are heavy soils that were merely well plowed, and the roots were placed in holes dug in the hard and previously undisturbed clay, and then firmly trodden in at planting. Nor does he stand alone in the advocacy of these views; others concur fully; but while deprecating the expenditure of so much labor in the preparation and comminution of the clays by trenching, they also insist upon the importance and necessity of thorough underdrainage upon such soils, putting the tiles thirty feet apart, but preferring to have them at sixteen feet intervals, or even eight feet, that is between every two rows. Those who have experimented with the tile, will point with the pride of an old ditcher to the happy effects produced upon the vines that come within their influence.

On other portions of the Lake Shore region we find similar views are maintained as to the value of clays; but we shall also find many eminently successful vineyards situated upon gravels, especially those which contain a portion of clay, and here the happy result is no doubt traceable to the good natural drainage which gravel affords. Even among the Islands referred to, there are many very profitable plantations that are similarly situated upon stony and gravelly land as well as those upon clay.

Pure sands are not generally successful when used as grape lands, unless they are based upon a clay subsoil, in which case they have proved eminently satisfactory in some regions, and with some varieties of the grape. About Cleveland and at various points along the Lake Shore region, there are ancient beaches, well known as the Lake ridges, which are composed of sandy soil, containing, however, quite a mixture of other ingredients, and sometimes consisting of loamy soil rather than sand. Upon some of these the grape is cultivated quite profitably; and there are not wanting advocates of sandy soils for vineyards. In these situations it will probably be found that there is a sufficiency of aluminous material in connexion with the sands, or in the lower strata, in the subsoil, as may readily be seen in excavations and in the exposed bluffs along the lake. It is our firm belief that the varieties of grape we cultivate do love clay, and we know they will find it if within their reach, and that they can penetrate it with their roots even at great depths, and where it has never been disturbed by the hand of man. This was satisfactorily proved in the vineyard of Mr. R. Buchanan, of Cincinnati, some years ago, by opening a pit among the vines; after digging below the trenched soil into the hard clay, which could scarcely be loosened by the pick, and when he had reached a depth of four feet there was still an abundance of grape roots to be seen forcing their way into this unpromising and apparently impracticable soil.

For the Ohio Farmer and Cultivator.

RABBITS INJURING TREES.

Mix equal parts of pine tar and fish or neat's foot oil. With a light paddle thinly covered with the mixture, tap lightly and rapidly on two three or four sides of the tree, according to size, leaving little dots the size of a pea about two inches apart and two feet high. It will not apparently injure the tree, and will protect them over winter. Half a gill is sufficient for from fifty to one hundred trees. Try it.

A wash of strong soap suds mixed with sifted wood ashes to the consistency of whitewash, and applied with a brush in a dry day in the spring will make all right again, and improve the trees. Try both.

Some people adopt the plan of feeding rabbits to prevent their doing mischief—such may try the following: Just before snow falls, go through the orchard, cutting off a few watershoots or sprouts, straggling and crossing limbs, and letting them lie under the trees. The rabbits will effectually bark them, if not buried in snow. Or with apples or turnips, coax them into box traps. The boys like the sport o catching, and "the folks" of eating them. T.

EFFECTS OF COLD ON FRUIT-BUDS AND TREES.

BY DR. JAMES WEED, MUSCATINE, IOWA.

Years ago, when our young trees first gave promise of fruit, on a cold afternoon in spring, with some indications of frost at night, we inquired of an experienced cultivator if it would kill the fruit. He replied that it was not far enough advanced—the buds being about half expanded—that the flowers must be fully open, or nearly so, to be injured. My gardener confirmed this opinion. He said, where a spring frost killed the apple or pear, the injury was to the rapidly elongated stem of the fruit, which, at the period of full bloom, was very succulent, and that a few days after bloom the stem became so woody that the fruit would often escape injury from quite severe frost.

A severe frost occurred the past spring on the 8th of April, after the buds had become considerably swollen, the mercury falling to 15 degrees, but we apprehended no injury would result to the fruit, as the buds had not opened.

Peach-buds and a part of those of the Early Richmond and Morella cherries were killed by a minimum temperature of 16 deg. in December; and as the season of inflorescence approached, we watched with much solicitude the amount of bloom the trees would show, which, when fully open, we thought sufficient for a medium crop of fruit; but on a careful examination of the flowers, a large proportion of them were destitute of the pistil, just as we had noticed in previous years and regarded as abortive blossoms.

The apple and pear blossoms of particular varieties, and on particular trees, developed their blossoms very slowly and irregularly—the stems of one or more flowers in a bud elongating much faster than the others—which, though apparently sound in the rudiments of the flowers and pedicle, were retarded in their growth from some cause. An examination of the fruit spurs showed the cambium discolored, especially near the extremity, and at junction with the base of the bud.

In a former communication we showed that in severe climates, where the cold of the winter is apt to kill the germ of the peach, it often kills the cambium and sap-wood of the past year's growth over the entire tree, the bark usually retaining sufficient vitality to deposit a new annual wood over the inner dead tree. Our peach trees in the open grounds are completely dead inside of the new wood of this year's growth—the annual growth of '64 having been killed the past winter, as was that of '63 by the winter previous. They have made a fine growth this season, and to casual observation appear sound and healthy. We are not sure that a less degree of cold will kill the germ of the peach in winter than that which kills the annual growth of wood; but the new wood of the cherry will endure greater cold than the germ of its fruit, while in the apple and pear the germ is often uninjured when the cambium of the fruit spur is discolored, generally causing the failure of the fruit after flowering. In the winter 1855–'56, so memorably disastrous to fruit trees at the West, this injury to the cambium of the fruit spurs was extensively apparent in some varieties—after a minimum temperature of minus 37 degrees in mid-winter—the blossoms of which withered and fell from the trees soon after flowering; while, in other varieties, not a trace of discoloration could be seen, and their bloom was succeeded by an abundant crop of fruit. Some of the varieties which passed that severe ordeal of winter cold uninjured, were much damaged by the cold of last April.—These were mostly of summer apples, from which we infer that the early and free circulation of sap in the trees, was the condition that rendered them unable to endure a temperature only as low as 15 deg., while, in common with the germs of the Early Richmond cherry, they had passed safely in December a temperature of sixteen degrees below zero.—*Gard. Monthly.*

Catching Rabbits.—I destroy rabbits with the old box trap, baited with a piece of an ear of corn; they destroyed about one thousand nursery trees one winter for me. Strychnine mixed with corn meal in a dry place is a certain method. Greasing trees often kills them if the grease be soft. I do not prune my nursery trees except to keep a leader, and the rabbits will eat the little laterals before attacking the bark on the main stem. I find it pays to keep cats, as mice, rats and rabbits are destroyed by them. Give your cats plenty to eat, and furnish them quarters among other animals, but keep them out of the house, unless you have use for them.—*Wis. Cor. Germantown Telegraph.*

Fine sense and exalted sense are not half so useful as common sense.

For the Ohio Farmer and Cultivator.

ON GRAPE SOILS.

From the Ad interim Report of the Ohio Pomological Society; by Dr. J. A. Warder, President.

THE COAL MEASURES.

While discussing the question of grape soils we must not omit the consideration of those found in the coal measures, since we have had such flattering accounts respecting the vineyards about Pittsburgh and in the neighborhood of Wheeling.

The rocks here being sandstone and shales, with occasional bands of limestone, the soil resulting from their disintegration, and with very little of the drift formation superimposed or mingled with it, is just what we should expect to find it. It is loamy and underlaid by clay that is often exceedingly tenacious. On the abrupt hill sides, many of which have been planted with grapes, the shale predominates, in a less decomposed condition, and is mingled with fragments of sandstone, so that in some vineyards the whole soil seems to be a mass of thin layers of rock broken up, rather than earth suitable for planting. Lower down, however, there is clay holding water, though the upper layers must be very well drained, Upon such material the vines appear to thrive. In the valleys we find terraces of sands and gravels such as are common to most of our large rivers; and here we may also discover extensive flats of clayey land—upon the former the grapes have not been remarkably successful, but upon the clay deposites they have given greater satisfaction.

THE BLUE LIMESTONE REGION.

Here in our own region (around Cincinnati) once considered the favored center of vineyard cultivation, we find quite a difference in the views of planters. The Germans selected the steep hill sides of the silurian limestone formation, where the soil is derived immediately from the decomposition of the shales that alternate with the limestone. These, being highly calcareous, furnish a tenacious clay rich in lime, very retentive of water, and becoming hard when dry. Under-drainage has not been practiced to any great extent in such situations, except so far as it is furnished by the stone walls, often used to support the terraces, where the hills are steep, but in such situations the surface drainage is abundantly rapid. Upon the hill tops the soil is more loamy and often quite friable, and here it is underlaid with a tenacious clay, needing underdrains even on the highest points. In such positions there is occasionally a deposit of drift which is sufficiently porous for natural drainage. In the great valleys of excavation we find natural terraces of sands and gravels along the rivers, resting upon and against great beds of diluvial clays, which latter, when planted with the grape, have succeeded much better than the gravelly and sandy terraces. The deep alluvials of the river bottoms have not proved at all satisfactory.

We may find vineyards in all these several situations, and there are advocates for each, but the general experience is adverse to the river terraces, and favorable to the clays of the hillsides, of the elevated diluvians of the ancient valleys of excavation, and especially to the soils found upon the more elevated hill-tops.

In conclusion, the vine-planter is recommended to study the habit and preference of the particular variety of grape he designs to cultivate. Endeavor to ascertain the soils to which it is best adapted, or the grapes that succeed best upon such soils and situation as he may be possessed of, and select accordingly.

AN ARABIAN LAUGHING PLANT

For the first time I met with a narcotic plant, very common south, and gifted with curious qualities. Its seeds, in which the deleterious principle seems chiefly to reside, when pounded and administered in a small dose, produce effects much like those ascribed to Sir Humphery Davy's laughing gas; the patient dances, sings, and performs a thousand extravagances, till, after an hour of great excitement to himself and amusement to the bystanders, he falls asleep, and on awaking has lost all memory of what he did or said while under the influence of the drug. To put a pinch of this powder into the coffee of some unsuspecting individual is not an uncommon joke, nor did I hear that it was ever followed by serious consequences, though an over quantity might perhaps be dangerous. I myself tried it on two individuals, but in proportions, if not absolutely homeopathic, still sufficiently minute to keep on the safe of risk, and witnessed it operation, laughable enough, but very harmless. The plant that bears these berries hardly attains in Kaseem the height of six inches above the ground, but in Oman I have seen bushes of it three or four feet in growth, and wide-spreading.—*Palgrave's Central and Eastern Arabia.*

Live Stock Department.

NATIONAL WOOL GROWERS' ASSOCIATION.

While the best part of a hundred gentlemen, from all the way between Maine and Iowa, were together in consultation upon the wool business, at Syracuse, on the 13th of December, the question of a National Wool Growers' Association was carefully considered, and after viewing the subject in all its aspects, it was finally unanimously agreed that such an association was particularly needed at this time, and that the gentlemen present as representatives of the several State and District Wool Growers' Associations, proceed to form a National Wool Growers' Association. The work of drafting a Constitution and nominating a Board of Officers, was given to a committee made up from the several States represented, who reported a plan of organization as follows: This meeting will proceed to elect a President Secretary and Treasurer for the National Wool Growers' Association. The Presidents of the several State Association to be, by virtue of their said office, Vice Presidents of the National Association; and each State Association to elect one other member of its own body as a joint member of the Executive Board of the National Association —all the above named officers to constitute the Executive Board of the National Wool Growers' Association. Each and every member of the several State and District Associations, to be, by virtue of such membership, members of the National Association.

After a consultation of several hours duration, the committee reported the plan of organization as above which was fully considered by the meeting of Delegates, and unanimously adopted. The Committee then reported the following officers: For President, Hon. HENRY S. RANDALL of N. Y.; Secretary, WM. F. GREER of Ohio; Treasurer, HENRY CLARK of Vt. The several State delegates then proceeded to elect their additional members of the Executive Board, to serve with the existing Presidentes of such Associations—the Ohio delegation electing Hon. COLUMBUS DELANO for their State. It is understood that all these elections are for the fractional term previous to the next regular elections of the several State Associations, and that the term of office of the President, Secretary and Treasurer of the National Association, now elected, be for one year or until their successors are chosen, at the first annual meeting to be held on the call of the President, which it is now understood will be towards the end of January 1867, and the place to be Cleveland, Ohio, as most central and accessible to all the wool-growers of the United States.

This is substantially the organization of the National Wool Growers' Association, as constituted at Syracuse on the 12 and 13th days of Dec. 1865. The question of forming such an Association has been warmly debated in meetings of the Ohio Wool Growers' Association, and a committee ordered to correspond for such purpose; but now by the occurence of a golden opportunity, the whole machinery has been set in operation and we do not doubt but that the action of the Delegates at Syracuse will be heartily endorsed by every State and District Association in the Union, and that States which have hitherto neglected to form Associations will now seize the opportunity to do so, and join in the grand array of local and general influence which shall unitedly march on in the road to ultimate and complete success in this great branch of American production.

BREAKING COLTS.

Many think it a great task to break a colt. It is the simplest thing in the world. As a child cannot learn to read at once, the A B C, must be taught it first. It must learn one thing at a time. And it must constantly progress until all kinds of work are understood. Most people fail by expecting too much from a colt at the start. They must reccollect a child learns to creep before it walks, and to walk before it runs. A colt too must make a similar progression. First, let it become used to wearing the collar, then the head-stall then the entire harness. Let it learn that the harness will not hurt it. Then lead out with the harness on, and finally drive it by the reins without hitching it to anything. Let it learn the uses of the bit, to turn to right and left by the pull, to stop, back, &c.

When you find the colt completely under your command, you can hitch it to a light wagon or sulky. Be very careful that it does not become frightened by the noise of the wheels —It is better to drive it before hitching to anything, by the side of a wagon on the road, to accustom it to the noise, so that may it

learn that it will not get hurt by the rattling of of wheels. Learn it to walk first. It is one of the most valuable gaits of the horse, and should be first taught to the colt. Then it can be allowed to trot slowly occasionally. But don't force the gait. Let it learn to trot squarely and easily. Use no whip; be very kind; do nothing to scare it, or you will get it to pulling on the bit—a very bad habit. By this course of treatment, you will soon have a docile, gentle, safe horse, that will be a pleasure to ride after.—*Rural World.*

KEEPING COLTS IN WINTER.

It is a nice business to raise a colt right. A great many promising animals are so handled, or rather shirked off, during the first years of their lives, that they never come to be what they would with proper handling. To keep colts right, they must be so provided for that they will grow right straight along. If they get a set-back in the winter, it is fatal to their proper developement, and if a colt is obliged to lean against the fence, in the spring, with his lousy coat turned towards his head, it is an affidavit of bad keeping, that will out-swear any protestations of "plenty to eat, and well cared for," that any mistaken farmer can urge in palliation of his neglect.

In winter colts want a dry, sheltered yard, well stocked with straw racks, fixed up on rails like an X, across a firm bearing beam. These will afford both fodder and shelter. The yard should be well encircled by open sheds, and kept clear of rampant steers, and all other hooking cattle. It is well enough to handle the colts in day time, and keep the hair straight and clean, but they should sleep at will during the nights, and not be hitched up by a halter or shut in a narrow stall.

For feed, the colts should have what hay they will eat up clean, and the hay should be of good quality—none of your rain-soaked and mow-burnt stuff, not fit for bedding. We abominate bad hay, and have wished that just for experiment, some of our slovenly farmers were transmogrified like an old fellow we have read of, who was made to eat grass like an ox, till he learned some good horse sense. Besides the hay at regular hours, and the straw they pick up between times, the colts should have a feed of chopped grain, or other mill stuff, or oats every day, a bite of carrots now and then, a lick of salt, with a dust of clean wood ashes in it occasionally, and a regular access to pure water for drink. All this is provision and care well laid out, and that will pay, if the colts themselves are worth raising at all.

COLIC IN HORSES.

Last month, in reference to my horse that had an attack of spasmodic colic, I remarked that it was not easy for an inexperienced person to tell the difference between an attack of ordinary spasmodic colic and inflammation of the bowels. John Johnston writes me on the subject, and says:

"I will tell you how you can know inflammation of the bowels from colic in the horse. In the former the pulse is hard and wiry; in the latter it is full, large and elastic. The best place to feel the pulse is inside the jaw bone, a little below the broadest part. By passing the finger up the inside of the jaw any novice can feel the pulse. I studied diseases of the horse with much care and from the best authors I could get. I have always found spirits of turpentine—about one gill for a dose—diluted with a pint of warm water, an instantaneous cure for colic. Nothing but bleeding to the fullest extent, even to fainting, will relieve inflammation in the bowels, and perhaps not that. Injections are good, but very free bleeding first."

I know that Youatt and other good authorities of the old school recommend bleeding for inflammation of the bowels, and there are cases, perhaps, where it is necessary. But as a general rule the horse will need all the vitality he has, and it is manifestly unwise to reduce him by bleeding. External blisters and doses of laudanum is the best treatment, and certainly the safest. Give no purgative; keep the horse perfectly quiet; bandage his legs; blanket him; give him a little warm oatmeal gruel; and give laudanum enough to ease all pain. Do not be afraid of it. Give two table-spoonsful, and if that does not quiet the pain in a quarter of an hour, give four tablespoonsful, and keep giving doses of two tablespoonsful often enough to keep the horse quiet.—*Joseph Harris.*

RATS.—Neighbor Jones says, that if we will go to a tin shop and get a lot of scrap tin, and crowd it into their holes, they will evacuate the premises at once. Whether they fear them as traps, or whether they scratch their sides, or whether they have a natural fear for it, he could not tell. He only knows the fact.

MUTTON THE MEAT FOR FARMERS.

The cheapest meat for farmers is mutton. It may safely be said it costs nothing. The wool that is annually sheared from the body of every sheep, richly pays for its keeping. In this climate it costs less to keep sheep than at the North, on account of the shortness of our winters. Then there is the increase—an item of great importance. The increase is so much clear profit. From this increase the farmer can get all his meat for a year, if he likes. Or, he may save the lambs and take some of the older sheep in their places.

The pelt of the sheep, if killed for mutton, is also saved and sold, which is worth nearly as much as the sheep would sell for.

It is also the most convenient meat to have on hand. In the warmest weather a farmer can take care of one sheep after being killed, without letting it spoil. With beef this is not so easy.

One hand can kill and dress a sheep in an hour. It takes but little time or trouble to kill a sheep, not near as much as to kill and dress a hog or a beef. On account of convenience and economy, we say keep sheep and live upon mutton.

We have said nothing about its being the healthiest food. This is admitted. It needs no arguments or facts to prove it. It is true that pork is the chief meat of farmers. It is the unhealthiest of all, whether fresh or saturated with salt to preserve it sound,

Let every farmer keep sheep. They are the most profitable stock on a farm. The hog's back only yields bristles while the sheep's yields downy wool, All that you feed to the hog is gone, unless you kill it, while the sheep will pay for its keeping with its fleece yearly. The hog is a filthy, voracious animal—the sheep gentle as a dove and neat and cleanly.—*Genesee Farmer.*

Earthen Stable Floors.—One of the best substances that can be found for flooring for horses, is clean sand. It is superior to wood, as it does not heat and injure hoofs. Some English veterinary surgeons use nothing else for bedding but sand. We have always found stables with dirt floors preferable to plank ones.

Wealth is not apt to be modest; the face on a guinea never blushes.

Cleaning Sweated Horses.—In many stables in Yorkshire and Lincolnshire the practice prevails of washing perspiring horses with nearly cold water. As soon as the horse comes in, he is taken into an empty box, and washed from top to toe with "the chill off;" he is then clothed all over with two rugs, and his legs bandaged; he is placed in his own stall, watered and fed, and in about an hour's time he will be found to be nearly dry, when the clothing is removed, and he is rubbed down as usual. Both carriage horses and hunters are treated in the same manner. The advantages I have found in this plan are: 1. It refreshes a tired horse after a hard day much more than the old plan of continual strapping until all the dried sweat was removed. 2. He feeds better. 3. he is less liable to catch cold. 4. His coat looks more blooming than under the old system. Our grandfathers eschewed the cold bath in the morning, but we their descendants, find it refreshing and beneficial. How would any of us feel if on coming home from a hard day's shooting, we were seized by a strong armed negro, not allowed to wash, but strapped till every pore tingled, and every thorn in our legs had begun to fester? Whereas, by the simple use of the tepid bath, and half an hour between the blankets after it, our whole system is refreshed, and are quite ready for roast beef and port, or vension and claret, and a quiet rubber, or even a dance or charade in the evening.—*London Field.*

Pig Breeding.—Notwithstanding the fact that more people are interested in the breeding of pigs than of any other class of domestic animals, the attention paid to improvement of the stock is very small. How few farmers know that the sow should always be larger than the male, and that he should be of the most perfect form, of good color, and perfectly sound and healthy, because almost invariably the pigs take the qualities of the sire instead of the mother; that is, his good or bad points will preponderate largely over those of the sow. Farmers, please think of this fact and profit by it.

Why is divinity the easiest of the learned professions? Because it is easier to preach than to practice.

The very thing men fear is often brought to pass by the means they use to prevent it.

The Apiary Department.

BEES DYING IN WINTER.

L. L. Fairchild makes the following inquiry concerning the loss of his Italian and black bees, during the past winter: He writes that he had kept his bees mostly in Langstroth hives which he enclosed in rough boxes for wintering, with such ventilations at the bottom as the rough joints gave them, and left the holes in the honey-board nearly all open, which gave them an excess of ventilation at the top and scarcely any ventilation at the bottom. By the collection of carbonic acid gas given off by the bees, which settled at the bottom of the hive, and the bees being driven by the cold air at the top of the hive too near the bottom they were compelled to breathe impure air, which was the cause of the loss of many of his bees.

The air which all animals and insects breathe if pure, contains twenty-one per cent of oxygen to about seventy-nine per cent of nitrogen. Neither heat nor food will compensate the bees for impure air, although they cannot live without both. The air becomes impure in consequence of their breathing it over and over in the hive. The oxygen is consumed by the bees, and there is an excess of carbonic acid gas given off by the bees, and the watery particles rise above them, and the impure air, being heavier than pure air, settles below them; and if ventilation at the bottom is not sufficient to carry off the carbonic acid gas, in which they cannot live, and his hives being nearly tight at the bottom, the bees were driven down to the bottom by the cold air entering at the top of the hive, having a very deleterious affect. This, and not the fact that the Italian bees are more tender than the black bees, was the cause of their death.

I will suggest to those using Langstroth hives, if they use a case in wintering, put it on three sides and bottom, and cork the cracks with straw, and leaving the front of the hive and also the place of egress open, which will give the bees ample ventilation at the bottom; take off the honey-board and place a rim six inches wide around the top of the hive, about half an inch smaller on all sides than the outside of the hive, and nail lath across the bottom of the rim on each side and through the middle, flush with the lower edge, for the cobs to rest upon; cut corn-cobs the proper length to cover the bottom, then take bright straw, cut about an inch long and fill the rim, and put it on the top of the frames and bees, and they will pass the winter in comparative repose, with but very little loss of bees.

There is little or no necessity for feeding bees for wintering if properly looked to in the fall and supplied with frames of food from hives that have a surplus. Those who find it necessary to feed their bees for winter, and have not honey in the comb to feed them, may feed them with molasses or sugar candy placed over and contiguous to the bees from the 1st of December to the last of March, and from the 15th of October to the 1st of December, and from the last of March to the 15th of May you may feed them with strained honey or syrup. be careful and have it well scalded before feeding and placed in a shallow vessel, with cut straw or pieces of broken comb.—E. KIRBY, in *Co. Gent.*

WINTERING BEES.

If it were not for the losses that occur in the winter season, honey bees would soon increase so rapidly, that they would die of starvation not being able to gather food enough in the summer to last even during the fall months.

How to winter bees best in a cold climate, is one of the questions that has never been decided, and probably never will be; as different apiarians have different methods of wintering them; but a few principles may be laid down that all will admit to be correct, as follows:

1st. To keep them in an even temperature, cool but not cold enough to cause the dampness of hives to congeal to frost.

2d. To keep them as quiet as possible, and if placed in a room, or winter bee-house, to be in complete darkness.

3d. To afford them a free ventilation of pure air under all circumstances.

These rules, we contend, cannot be controverted; and the question is, how are the conditions to be carried out in the most successful manner? To keep them *quiet*, it is necessary to keep bees either in total darkness, with the temperature of the atmosphere so cool as not to cause them to desire to leave their hives. Darkness will not keep bees quiet, unless they are kept cool at the same time; and bee-keepers who place their bees in dark winter bee-

houses, frequently have to open the doors, and throw in snow or ice, when the weather becomes quite mild in winter, in order to lower the temperature of the air within, and calm the bees.

Ventilation is as essential to bees as pure air is to men. A dozen hives of bees placed in a close room, ten or twelve feet square, would destroy the purity of the air in a few days—so much so, that a lighted candle would go out on being placed therein, provided that no pure air could enter such room. All rooms, or winter bee-houses, should therefore be ventilated in some manner, without admitting light.

Bees that are kept all winter upon their stands, in the open air, require no other ventilation than what can be afforded under their hives. The plan some bee-keepers have of making holes near the tops of hives, as a method of ventilation, we consider erroneous in practice, as we have wintered bees successfully 30 years, without any such ventilation, the hives standing out upon their summer stands, but protected by stuffing hay or straw around them so as to keep the bees sufficiently warm, and by raising the hives about one-sixteenth of an inch from their stands, sufficient pure air is admitted to keep the bees healthy.

Our hives are set upon stands near a close board fence, made a few inches higher than the tops of the hives, when resting upon stands only six inches above a platform of boards resting upon the ground. The hives have an open space between each of about six inchs only, and the hay (rowen hay is best) is easily packed around all sides, except in front, against which we set pieces of wide boards, reaching from the ground to the tops of the hives, close together, and a narrow strip over the cracks, so as to darken the passages of the hives, and also as a protection to the front sides of the hives.

On the tops of the hives, we also place a layer of hay, and cover all with boards, so laid as to keep the hay dry, and carry off the rains and melted snows of winter without wetting the hives.

On this system, the bees are kept sufficiently dark, and have no desire to leave their hives, except in very mild, sunny weather; and when we see the bees trying to escape from their hives, we throw down the boards set up before them, and let them come out, when there is no snow upon the ground, and when there is snow we bank up the hives with it in front, before many bees have come out, and replace the boards.

The Agricultural Department.

GREAT EXPECTATIONS.

The title of this article does not exactly express the idea we have set out to write upon, but we can think of no better. There is a homely proverb to the effect that you can have no more of a cat than her skin, and a still better from The Book, that to every thing there is a season. We are a great people to get the most out of everything, whether in season or out of season. The woman who killed the goose which laid the golden egg, has a great many imitators in our day and generation. But we will drop the fiction and "come to Hecuba."

Everbearing Fruits.—It has been a passion with some horticulturists to produce everbearing varieties of some fruits. Thus the Ohio Everbearing raspberry; from which another produced a seedling which he called the Daily bearing, &c. Now it was and is true that these canes produce a succession of fruits which are a curiosity to amateurs, and coming out of the usual season for such fruits, are a rarity. But aside from this consideration they are of less value as a stock fruit than varieties which will yield a full crop in its season, and be done with it. So far as our observation goes, these partial, everbearing varieties, are to the same extent neverbearing, in that they never make a full crop at any time; and they are equally lacking in quality.

Working Cows.—Every lit le while we see the proposition going the rounds of the press, that a great deal of useful power runs to waste in not working cows as well as oxen. Various arguments are used to enforce the propriety of such a practice; as that women labor, and lady horses labor, and somebody who has tried the working of cows has found profit in the practice &c. There is no question but that cows can be trained to work, and we dare say that a team of stout heifers would make fair roadsters; but when you come to yoke a cow which is to be giving milk nearly the year round, you will find the old German proverb true, that you cannot milk a cow at the horns and teats at the same time, without essential damage to both. And the reason is that the nature of a cow is unlike that of a horse, or of a woman in the exercise of her reason.

Hens Laying in Winter.—Perhaps the nearest approach to the everbearing theory, is at

tained in some of the popular breeds of domestic fowls. It is a nice thing to have fresh eggs in the winter, and a practice not to be discouraged to coax the motherly hens into a generous yield of the coveted articles; but the fact is not to be disguised, that a hen which is forced into great winter laying for the table is not in the best condition to get up a nest full of eggs for spring hatching. An egg for the table is one thing, and an egg for a future chicken is another thing; the difference may not be appreciable on the table, but it will be in the brood, when the sickly little things drop off with gapes, roup and other ailments which a feeble constitution has not vitality enough to survive.

The philosophy of all this is just here: Nature must have her seasons of rest, and if these are encroached upon, she revenges herself by a faulty production. We should rather be satisfied with a fair crop of the best quality in its season, than to force a perpetual production out of its season, at the risk of a worse quality and a fatal drain upon the source of our supplies. This is about what we set out to say under the head of Great Expectations, which oftener end in signal disappointments.

MECHANICAL SKILL USEFUL TO FARMERS.

The general introduction of machinery for farm uses necessitates an additional knowledge among the farmers themselves; that whereas, with the former simple tools of the farm the operator had only to study the capabilities of his soil, the adaptation and cultivation of his crops by such simple processes, now he is obliged beyond these, to understand the philosophy and working of machinery. which is often so complex in its construction that none but an educated mechanic can well comprehend its proper management. The man who sets up a steam mill, has his regular engineer, whose sole business it is to attend the engine; but the farmer with all his various machines for planting, cultivating, harvesting, threshing, &c., must be his own engineer and keep his tools in order, or they will go to destruction.

The multiplication of farm machinery, in its turn begets a necessity for a variety of tools with which to keep the machinery in order, or to make repairs as parts give way. To this end the farmer must have his workshop and his sets of tools where such operations can be performed, and he must learn the philosophy of his machines and the use of the tools necessary to keep them in repair.

No farmstead should be without its workshop and a fair set of tools. Time was when if a farmer had a hand saw, a hammer, an iron square, an inch augur, a gimlet and a jack plane, he felt equipped for all the mechanical emergencies of farm life; but with the introduction of modern labor-saving machines, that time has passed away, and the workshop becomes a necessity upon the farm. It is just as much a part of the practical education of the farmer's boy, to learn the use of the tools in the workshop as it is to know how to handle the hoe, the axe or the spade, or any of the implements of farm work.

The farmer's workshop should be a place convenient of access, snugly enclosed so as to be heated in winter to make it a comfortable place to work in; furnished with a work bench to which is attached a vice or screw for holding material which needs to be held firmly while being worked; and stocked with planes, augers, bits, saws, hatchets, hammers, wrenches, nails, screws, screw-driver, and all such little things as convenience suggests, for the various operations which are required. Such a place will be worth more towards the education of the boys than half they will learn in college, and for convenience and necessity for farm operations will be one of the best investments which can be made about the farm.

Trees vs. Rabbits.—Mix a little snuff or pulverized tobacco with common soft soap, and rub your trees with it as high as a rabbit can reach, and they are safe. The washing of the soap to the roots of the trees, is highly beneficial to them, and will pay for the application alone.—The soap will destroy the insects on the bark of the tree, and give the bark a glossy appearance. The liver or flesh of an animal rubbed on the bark of a tree, will also save it from destruction by rabbits. Now is the time to make the application.—*Rural World.*

Prune Grapes Now.—There will be no better time than the present for pruning the grape vines. If deferred into the winter, pruning is an uncomfortable job and likely to be neglected until too late in the spring, when the vines will suffer by neglect and receive damage in the handling. Do it now.

ONE-IDEA FARMING.

BY ONE OF THE OLD GUARD.

Did you ever observe a squirrel in a tin cage, with a revolving wheel attached to it; the apparatus put up in a country bar-room; the squirrel always, when in his wheel, on a keen jump, and always *at the bottom?* Did it ever occur to you, if squirrel would *hold on*, he would be part of the time at *the top*, supposing the gyration to go on?

In the human, the social, the *agricultural* squirrel cage, the gyration always goes on. There are enough uneasy fellows, who must always be on the jump, and always keep the wheel spinning; "argal," (as our moralizing grave digger says in Hamlet,) if one wiser than his fellows *holds on*, the rest will propel him to the *upper side, half the time!* Q. E. D. Consider that point settled.

Tariffs and rumors of tariffs! speculations and rumors of speculations! foreign markets! a hundred causes, are constantly affecting our markets, not only for agricultural gimcrackery, but for our great staples. Wheat, wool, cotton, tobacco, dairy products, all staples that can be named, occasionally reach the point of over production. It is not easy to change the employment of the stock in trade and fixtures in a moment, and consequently the overproduction continues, and reaches a higher point. The business is clean overdone; prices cease to be remunerative; the accumulated surplus remains on hand to keep down the market. Panic then inevitably sets in. Every wiseacre is convinced that this particular branch is not only done up for the time being, but done up, as the boys say, "for good." Every rat is for leaving the sinking ship on the smallest chip he can find to make a craft of.

The water runs toward the lowest place. The agricultural low-place is soon discovered, or at least grasped at. Every previous overproducer makes a push for that. The old stock is sacrificed—the old fixtures are thrown away. If the low-place is dairying, every cow in the kingdom is brought up at an exhorbitant price. If it is wool, the price of sheep instantly doubles. But mark! Every one of those who have helped make over-production in one branch, (and three times as many more,) rushing together into the low-place, they immediately make it the *high-place*; the spot they have *just left*, becomes the low-place. The squirrel that *held on* is *at the top;* the one that jumped is *at the bottom!* Finding himself at the bottom, he jumps again, and (like the woman that spoke in meeting) *keeps* finding himself at the bottom. Q. E. D. Please consider *that* point settled.

The best farmer I know of always abandons a particular line or article of production, the moment it becomes the *rage*. He sells out *his* stock and fixtures to the eager recruits who are ready to pay double their value, and buys up *theirs* at half or a quarter price. Their abandonment immediately produces under-production, or scarcity, in the deserted branch; it regains its equilibrium, or rises above it; and he is soon ready to sell out again at double price to a new set of restless adventurers. That's the shrewdest kind of a squirrel! By some unexplainable physical anomaly, *he* keeps *top of the wheel all the time!*

I take it for granted I am not "rhyming to dull elfs," who cannot catch the moral of the foregoing without my making the "practical application," like a good old Puritan domine in Cotton Mather's days, after reaching 137thly!

There is another kind of agricultural one-ideaism, equally deserving mention and *avoidance*. It consists in setting but *one bowl* out when the skies are expected to rain larks! Your whole farm is devoted to tobacco; the tobacco finds a bad season, or the market is poor. You have a poor show of larks! Division of labor is a good theory *in a shop*. But a farm is a little kingdom. It must be to some degree self-supporting *to be independant, or to be thrifty*. It is by no means worth while to try to force Nature. She won't *be* forced, if you try it. Canada can't grow oranges. Cuba is not famous for Kennebec salmon. Each will find it expedient, in the long run, to follow the bent of their *"nat'ral gifts,"* as Natty Bumpo has it. If one has what the other has not, then *swap* and pay the boot! That is the logic of nature and common sense.

A farm is a kingdom. Every farm is physically, at least, a flat contradiction of the legal apothegm, that there can be no *"imperium in imperio."* Your farm kingdom must not, if you would *catch the larks*, be limited to one, two, or three products.

I grant that you must not have but two or three *main* staples of production. There *is* such a thing as *frittering*—spreading out like

a river without a channel—and then the thirsty earth drinks up what the hot sun does not evaporate. In short, you set out such *little* bowls, that you wouldn't catch larks if they should rain plump upon them. They are not *big enough to hold a lark.*

But in the rough masonry of farming (as in the Cyclopean walls of the Grecian Ithaca,) the stones are not hewn into courses. There are interstices, chincks, to be filled. Your main agricultural staples are the big blocks. I propose agricultural "chinkers." Do you get my idea? I propose little bowls for little larks—"small holes for kittens." I am sure you get my idea!

I will descend or ascend to specifications. Nineteen-twentieths of the dairy men of New York do business about in this wise Each has from fifteen to twenty cows. He has one span of horses to do the small amount of plowing or "teaming" of a dairy farm. He has swine enough to consume what may be termed the *offal* of the dairy. He has barn-yard fowls—a lonesome sheep to turn the churning machine. Besides these (and a cur and rats and mice) there is not another brute animal on three hundred acres! The saleable products, as well as the *human fodder* (year in and year out) of *that* establishment are dairy and poultry products, an occasional beef or veal and pork—pork—pork (and potatoes.) Bowl No 1 is the dairy product; bowl No. 2 is the pork; all the rest are pins and needles. Yet you look round that farm, and your eye at once discovers chinks. Yonder steep, briary hill, does not support cows. It would carry sheep. Yonder boggy "swamp pasture," where the wild grasses admit no intruder but the half civilized red-top, does not produce the sweet golden butter, or the rich sound cheese. Two or three great hulking colts to supply the farm team, and give the farmer a serviceable cob to ride around when "shanks' mare" gets old and stiff, would nip the better of the sedges, mix it with an occasional lock of red-top, and "pronounce it good." These colts aforesaid, would hulk round the straw-yard in winter, and eat a world of rough stuff very nearly wasted by your genuine dairy men. Tom would have his colt to break and ride, and Sam his. By-and-by, when Sam and Tom went a sparking o' Sunday nights, they would *ride* like cavaliers, and not go poking cheaply on foot! The lad that goes a sparking on a spanking horse of his own, is the one that "brings down the persimmon!" *He* gets to be a boy, *as is* a boy, that bestrides a gallant four-year-old of *his own.*

Yonder is a downright swamp. Cut away a bit of its forest belt and force in some clover. Surround it with a goose and a duck-proof fence. Buy half a score of geese and ditto of ducks, and there empound them. See how those ducks will "*shell out*" pretty decent eggs, (where those of the hen and pintado are not to be had.) But only think of roasted ducks done to a turn, and fat young Christmas geese in royal abundance—(my mouth half waters, albeit I ate supper but an hour since!)

N. B.—Let the ducks have fanciful top-knots on their heads, and the geese be of the most beautiful varieties, provided they are no *worse* for it. The reason I will tell you soon.

Yonder (not far from the house) is a spot not appropriated, because cows, or horses, or swine placed there, would be *misplaced,* in the way, and some of them would come "between the wind" and the women-folks' "nobility," now and then. In short, *that* spot can't be devoted to the attainment of filthy lucre, unless it comes from some article or ornament of luxury. Run a trench round it three feet deep, of only the width of a ditching spade. Fill this with the pebbles of the farm unfit for walls. Clap a low fence on top of it, plain or fanciful, as the cook's recipes say, "according to your taste." Stock this with the large lop-eared rabbits, that will weigh ten or fifteen pounds on the table, that are as sweet as chicken, and that you can have for the table without disproportionate loss (as in the case of chickens) at all periods of the year. Mind they be pretty, properly marked, with the genuine "butter-fly smut" on their noses, etc.

If your farm is dry upland, be sure you raise *fifty* turkeys per annum. Have a beautiful yard of the best and most beautiful poultry. Let it be the aristocratic Dorking, the saucy Game, the glossy Spaniard—anything, in a word, but—but—the great u—st—y Asiatic Shanghai (variegated into *varieties* by importing sea captains, after the name of every Asiatic seaport where the miserable brutes were taken on board.

These are but *examples.* More bowls, or different bowls, could be set out according to circumstances of climate or position.

Now, let's sum up. Our armer, who lived on bread and milk and pork, by "chinking up,"

as I have proposed, adds to his larder (and *market wagon*) mutton, lamb, geese, ducks, rabbits, etc., etc. The good wife has wool to make into those even soft winter stockings, under-flannels, and pin-money. Every boy has a colt to go sparking on, and "dad" can ride when he gets tired.—THERE IS TWICE AS MUCH TO LIVE ON AND TWICE AS MUCH TO SELL FROM THE FARM.

These are weighty considerations, but there are others quite as weighty. The boy with his colt and his skipping rabbits, his beautiful poultry (*that's* the reason why I wanted crests on the head of the ducks!) and pets of all kinds to "chink up" his spare hours with, and occupy his thoughts and affections, grows up thinking that home is about as pleasant a place as the streets of the village, the bar-room, the store, the grocery, or places of low amusement, like—like—no, I wan't specify, where there are so many, "each idle, all ill; and all the same."

I hold it a part of good husbandry to grow up a good breed of men. He is not the best farmer who raises good pigs, and scrubs of children! The moral and material of the best farmer, work hand in hand. Here endeth this lesson. SOUTH-HILL.

Cortland Village, N. Y.

TO DESTORY CUT WORMS.

Among the secret operations of Nature, the phenomenon of potato rot, mildew on the grape, milk sickness, and such like, seem to be little understood by the popular mind. Of the same class is the pest of the cut worm. We heard it confidently asserted by a wise old lady who was a close observer of mysterious things, that the common house fly was the parent of the cut worm, for she had watched and had seen them come up out of the ground and fly off! Last summer a friend sent us the larva of an insect in the process of its last transformation, which he felt sure was the cut worm, of which he found millions coming out of the ground, casting their skins and taking wing in perfect form, which perfect form we found to be the common drag-on-fly, and the larva a maggot, and not the grub known as the cut worm.

We had a talk with a skilful gardener on this subject, who had so managed his grounds as to elude the pest in most cases, and his practice was to change crops often, plow in the winter, and thus by dodging about with crops and working which came in different times, kept out of the way of the cut worm.

It is said that cut worms will not live in lands which are pastured by sheep or by hogs. We know that hogs are a good remedy for lands infested by the grub of the May-beetle. We do not entirely understand how the pasturage of sheep would affect the cut worm, but it is confidently asserted to be a fact. Stirring the ground late in the fall, or in the winter, disturns the nests of the worms and exposes them to freezing and thawing, which puts an extinguisher upon them. Very deep plowing early in the spring, will turn the pests under so deeply that they often fail to come up in season to do much mischief.

HEN-HOUSES.

Two years ago I put up a building of gravel bricks, which you must know are composed of a mixture of gravel and lime, and moulded into blocks as large as six or eight common bricks, and allowed to dry in the sun for some weeks before being laid. The house is 30 by 12 on the ground, and to the eaves about 10 feet high. We divide it into two equal parts, for a smoke-house in one end, and the other for the accomdation of the poultry. Of course the partition wall is entirely tight. As the roof is of common cedar shingles, it was necessary to plaster overhead to make it fire-proof. The floor is in one piece, of the same cement as the wall.

Thus you have the domicile. Now for its management and its advantages. Once a week, early in the morning, while the dew is yet upon the grass, if the weather be dry, it is thoroughly *burned out* and purified of all *foul* things.—This is done by gathering the litter of the nests and the sweepings from the floor to the latter, on which pile is thrown an armful of dry straw or shavings, with a couple of spoonfuls of sulphur. The windows are next closed on the inside with sheet-iron coverings. The fire is kindled, the door is shut, and the work of purification is continued for half an hour. Now, when the fire has been extinguished, what remains upon the floor is gathered into a barrel and shoved to one side, where it is kept dry from the weather, as a valuable fertilizer, till needed for the field or garden. Thus is collected six or eight barrels per year of this home-made guano, which we think worth more than twice the interest of the cost of the entire building.

The whole expense of both hen and smoke-

house was less than one hundred dollars. You will perceive that by upsetting and burning the nest weekly there is no chance for setting hens. You must therefore find other quarters for them and the little chickens. which is better for all. In the roost are accommodated about eighty hens and cocks, which are happy and healthy, and which supply us with an abundance of eggs the year round.—*Cor. Ger. Telegraph.*

For the Ohio Farmer and Cultivator.

CRESTED OR POLAND FOWLS.

These comprise four or five distinct sub-varieties, all considered very good layers, but eggs are small and white in color of shell, and not rich. Some lay good sized eggs, some larger than those of Hamburgs. No conclusion has ever been arrived at as to their origin. Some pretend to say they get their name from Poland; others apply it to the cap on the head or poll; more likely the latter is the proper derivation. They comprise the following: Black Poland, with large white tufts, often part black, lead or dark colored legs, often flesh colored weigh from four to five pounds each. They are admired for their beautiful contrast of white and black, and are kept entirely by some.—Their flesh is inferior and unfit for table use. Silver Poland or Pheasant is a beautiful fowl—especially the hen—legs same color as Black Polands, lay about the same. For real beauty and for a fancy fowl, the Golden is the fowl Better layers than any other Polands; might be ranked next to Spanish. The cocks are the finest plumage, but hens are also very pretty. White Polands are now considered a variety, but they are nothing but the result of a cross between other Polands and by selecting have been made almost a pure breed. All other Polands differ in shape and carriage from the Black, the latter being (the cock) more upright and square built. The Golden Poland's flesh is superior to Spanish. They set less than other Polands some never set, most Polands will set once. They are of a medium size; the ground-work of feathers is of a golden hue, and interspersed with dark pencilling; some are spangled; they being more beautiful, they are delicate in constitution, like all Polands, and chicks difficult to raise. Black Poland cocks should show some white feathers in tail to show high breeding; a yellowish white neck hackle; the black should show a green metallic luster in both cock and hen. Polands eat about same amount of food as Game and common fowls.—There once existed a fowl entirely white with a black crest, but such fowls are now extinct, they would be beautiful no doubt. There is now an established breed of white Polands—white all over, with white crests; such are the results of crossing two of the breeds of Polands; generally poor constitution, and are worthless for poultry and good only for fancy. But some breeder of fowls has brought about an improved Poland, greatly superior to the white-legged white Polands. They are termed Yellow-Legged White Polands. I know nothing of them but from what I have read; by reports they are a very valuable fowl, but of course not a pure breed. All pure bred Polands have lead or dark colored legs, some flesh-colored. It is a high bred fowl from the Black Poland. Here is what a writer speaks of them: "My next best fowl to Spanish is the Yellow-Legged Poland, (his first choice being White Dorking, 2d, Black Spanish,) being better than other Poland for the reason that they have yellow legs, and are larger than any I ever had of other Polands; are pure white in plumage, and large crops on their heads—are non-setters or everlasting layers—seldom ever showing any desire to set; lay large white eggs of a longish shape; are easy to raise and easy to keep, not eating more than Dorkings. Are a good fair table fowl, which I cannot say of other Polands; will weigh from 4 to 5 lbs. the cock, hens 3 to 4 lbs. Persons wishing to keep Polands, I would advise lo keep the Yellow-legged White Poland.

To Trap Owls—As a general thing we think owls should be preserved for the good they do in hunting mice and other field vermin; but sometimes they become troublesome and forage upon the farmer's hen-roost; and as such attacks are made in the night, the farmer is not likely to know of the enemy's approach until the mischief is done. If the fowls roost in trees, it is difficult to protect them, but if under sheds, set a flat-topped post near the shed, and upon the top of this post set a steel trap, so that when the owl alights to reconnoitre, he may put his foot in it, and be held a prisoner until he can be dispatched.

Take a turn about the farm and right up the fence corners, and lay up the loose rails so they will not rot or be broken under foot during the winter.

THE FARMERS' FIRESIDE.

"The Heart of him that hath Understanding, seeketh Knowledge."—*Bible.*

Very often we hear farmers and other working people excuse themselves from attention to mental cultivation, by saying, "I have no time to read;" and true it is, that reading alone is not the only way to get knowledge,—that is to say, the reading of books; for there is a sort of reading that to us is better and more instructive than the reading of books, just as there is a sort of preaching that goes down deeper into our soul than the formal dispensations of the pulpit; and the men or women who have understanding, will read that open book of men and events with the same profit of understanding, as they listen to the silent preachings of those providences which carry to their hearts the lessons of the Wisdom, the Omnipotence and the Love of God.

But it is not of these that we design to discourse now. They are open and free the whole year, and our rural readers can always profit by such ministrations. While the inclemency of Winter drives the rural household to the domestic fireside, each one will seek to do something, either to use, enjoy or kill time. Alas! that any should be so destitute of resource in themselves, as to be forced to this last sad expedient. Besides those small in-door labors o economy or invention, at which some people busy themselves, reading seems to be the natural concomitant of this season of partial leisure. In reading, as in eating, people display their peculiar tastes. Some will seize upon a book or a paper, and, sitting down all alone, will neither seek sympathy or share it with others. There they sit, sucking in like a sponge, but never giving out. Their sympathy begins with themselves, culminates in themselves, and ends with themselves. Alack! for the hapless wife or child that comes unbidden within the selfish orbit of such a man, at such a time.

Most people, however, are more social in their habits, and enjoy both a book and a dinner in congenial company. And why not? Even the horse and the sheep cling to the society of their fellows, and seem happier than when alone. As in labor, so in relaxation, much is to be gained by a union of force. What will please and instruct one man, may as well please and instruct fifty men at no more cost; so there is an economy in knowledge, as well as in power. And more too, for the very sympathy of contact gives a force to appreciation that no isolation can effect. This is what we mean: When you open this number of the Farmer, and all the family are ready to listen and you read aloud to all, this little chapter, or any other, if it is, as we hope to make it, worthy of your reading, every one of the listeners will enjoy it as well as if read especially for himself, with this added interest, that there is a reflection of thought and happiness, from the very contiguity of mind engaged in the same contemplation. Here is the simplest illustration of what we wished to convey of the economy of mental forces. But O! dear reader! could we who now pen these brief lines at our solitary desk, but divide and sub-divide our mentality into ten thousand units, and go out with the sheets which bear this friendly talk to your firesides, thousands of miles asunder, and there become a part of each loved circle, as you read with a friendly or a critical eye, to get knowledge or to find fault, or to hear "What will this babbler say"—with what an ocean of testimony could we return to our present self!

Every family is a miniature Republic, but here will be a still greater economy for some purposes of seeking knowledge, by the union of many families upon special occasions, for the wider dissemination of intelligence. Thus in every district, the school house may be made the rallying point, where other knowledge may be gained than that of letters and figures for beginners. Maturer minds may commune with each other, of the great interests of life, and an equalization of knowledge take place, by bringing the lower to the understanding of the higher, while the higher will lose nothing, but rather be the gainers thereby. Thus will you push the inquiry and development to a higher plain, in those departments which shall be of most benefit to the hearts and homes of you all.

We have a thousand feelings and thoughts that cannot, will not be expressed; that refuse to be transmitted into language—sulky aborigines that will not be naturalized in another soil.

A GOOD HEALTH SOCIETY.

I am not a big girl yet, and my name is Lucy; but I have a dear good Aunt Maria who always calls me Lulu. Last New Year's day she said to me, "My dear little Lulu, you are a good girl, but you have one great fault."

"Well, auntie, what is my great fault?" I said.

"It is that you are sick so much. During this year I have been to visit your mother many times, and often I have found you so sick that you could not leave your room."

"But, my dear auntie, you do not think it my fault that I am sick, do you?"

"Well, if it is not your fault, it is somebody's fault. I am certain that you need not be sick so much. You know that every time you are sick, your mother has to be up with you nearly all night, leaving baby to be taken care of by papa, which disturbs him. Then you have to be out of school three or four days, losing your lessons. All this disturbance comes because you are sick. Now, if you could just as well avoid being sick as not, would you not think it selfish and wrong to be sick?"

"But," I said, "I cannot help being sick. I don't want to be sick; and you would not think I did, if you knew how much pain I have to suffer when my sickness comes."

She said, "I used to be sick most of the time-I know now that the reason of it was because I did things that I ought not to have done. And since I learned how to live, I am never sick. Now Lulu, I feel sure if you lived rightly that you would not have such turns of sickness as you do. If you want to grow good this year, I think you can do nothing so useful to your papa and mamma as to try not to be sick."

I thought it was all strange, but I caught her round the neck, and said, "Well, auntie, if you will teach me how not to be sick, I will thank you forever and ever! Tell me how, please." She told me then that if I would do one thing, which was never to eat anything except at my meals at the table, it would be a great help to me; "for," she says, "you are eating apples or nuts, candy, cakes, or something all day long."

I thought it would be very hard not to eat between meals, for I was hungry so much; and I told her so.

"Oh! well," she said, "if you do not wish to do anything hard, I cannot help you. It is not easy to grow good. I think you will fail, if you expect to grow good by doing things easy and pleasant to be done."

I said, "I guess if Charlie will promise not to eat between meals, I can make it go. I should like to do something hard."

"Well," she said, "you talk with Charlie about it, and in the evening come up here and see me again."

I did not eat anything after that, all day except at supper. It was pretty hard; but I felt as if it would be nice to do something hard on New Year's day. I told Charlie what auntie had said, and he said, "Well, Lu, if you would not be sick, I would not eat anything till next New Year's. I cannot bear to hear you crying in the night when you are in so much pain."

When he told me that, I cried: for I thought, if he was willing to go without eating to have me well, I ought to be willing to do so, if I was ever so hungry. "Lu you know men and women have temperance meetings. Let us have a "Good-Health Meeting." We will get all the children and have a pledge just as they do" So we went and got Fannie Stuart, and Joe and Ben and Clifton Greene, and all came up to see Aunt Maria in the evening, and we told her what we were going to do; and eqs made a constitution for us, which said that for one year not one of us would eat anything except at our meals, and that we would be in bed every night at nine o'clock, unless our fathers and mothers let us go to lectures or some meeting. It is said, too, that every time we did sit up later or eat between meals, we should pay five cents to the society. Auntie said that "Good-Health Society" would be a better name than "Good-Health Meeting." And the constitution said, too, that every time one of us was sick, we should have to pay ten cents. I tell you, I thought I should have to pay a good many ten cents, because I was always getting sick so much. But now, Mr. Putnam, I have not had to pay five cents once all this year. I have gone to bed every night at nine o'clock, and have not eaten once between meals." At first I was hungry sometimes; and sometimes, when we had apples and cakes to eat in the evening, I wanted them so much that I could not help crying. But Charlie always helped me. He said, "Don't you eat, Lu, and I won't" and I did not. What is better than all the rest, and what is a fact, too, I have not had to pay one dime. I haven't been sick once this whole year. Now I am never hungry, and do not wish to eat except at meals. We didn't get much money for the "Society."—*Dr. Jackson.*

A TALK FOR THE SEASON.

Questions of practical field operations and other out-door affairs, have hitherto engaged our principal attention. We now desire to talk a few moments upon another matter of still greater importance, since it lies at the foundation of all intelligent success in practical operations. Men sometimes stumble upon success, and then lay claim to great sagacity, which is freely accorded by a superficial public judgment, by which both parties are deceived—the blind leading the blind. Success is eminently desirable, but the ability to command success is infinitely more so. A stout arm is an essential qualification in a man for field labor, but an intelligent brain to direct that arm, is more than this, a vital necessity.

Now you see what we are driving at—the cultivation of the intellectual as well as the the physical man, to ensure success in the field of agriculture. When a person stumbles up. on success, it is only a piece of good luck, and no credit to himself; but when success comes by diligent seeking through good management, the person may well feel that he has deserved it, and with fair oppotunity can attain it as often as he uses the means thereto. Success is the goal of endeavor, and when honorably attained, is creditable as an evidence of good desert.

The application we desire to make of these preliminaries is, to urge upon our farmer friends the importance of laying plans at this time for the improvement of their information in matters relating so their calling. No one should be offended when told that a little more knowledge would be a good thing for him. We are not apt to get so much wisdom that our knowlege box is completely full, and if this miracle ever does happen, we should go to work to increase its capacity, like the little boy who thought he might possible eat a little more, if he stood up!

There are two principal ways in which farmers may employ these long evenings to advantage: both may be carried on together and in relation, most advantageously. One is, a correct systematic home reading, upon subjects of fact and science in agriculture and other rural affairs. This will bring into exercise the knowlege we have, to fix it more clearly in the mind or correct any wrong notions we may have allowed to get mixed up with previous knowledge. In reading—every where except in the Bible—we reserve and practice the right of private judgment, and no matter who the writer is, we challenge his propositions with as much freedom as if he were our pupil and we his tutors. If a learned man talks nonsense, it is more dangerous than if it came from one of less pretension; so if Agassiz or Liebig predicate what we know to be false, we would say to them—gentlemen, you are wrong. But this critical course of reading should not be allowed to hinder our reception of truth. It is no compliment to truth that we accept it, it is a favor we do ourselves—and we should be as greedy of gain in this, as we are in any business transactions or investment of capital that we embark in.

Read something else besides the floating literature of the day. Enough of it is good in its place, but to be drenched with floods of horrors, sandwiched in the diluted tales and poems of the popular papers, is poor feed to the soul that would attain the full measure of a living manhood. Go rather to the masters of sober thought and practical science, nearly or quite all of whom will bear some watching when they get on hobbies, but are in the main to be commended. Provided with such as these and the *Ohio Farmer*, the farmer and his family can form the circle around the evening lamp and discourse of knowledge that will be better than the idle gossip of the town.

For the Ohio Farmer and Cultivator.

WHAT SHALL WE READ?

"Oh, I am always so glad when it comes my week to board here," said the tired-looking school mistress, as she stood before the bookcase in farmer Welton's cheerful sitting room. "So many books to choose from! What shall I read first?" Here is Dr. HOLLAND'S new book, uniform in size and general design, with "Lessons in Life," and "Gold Foil." But when will he write another poem like Bitter Sweet?—Doesn't he know his admirers are waiting for it? He needn't write any more novels. Let him leave that for minds of a different order. BAYARD TAYLOR, please take notice also. If we need to have Fanny Gilberts and Hannah Thurstons described, let somebody do it who can't do better things.

"Well, here are all of GAIL HAMILTON'S books; and I have read none of them" Then read 'Stumbling Blocks" first. But that you can keep for Sundays. If you like a good thonght-

ful novel, here is "The Gayworthys." Queer name, but a book whose influence and unobtrusive moral must be felt for good wherever read. Then here is JEAN INGELOW'S "Studies for Stories," and her exquisite poems.

"And here is another collection of poems—Under Green Leaves." Oh, what a tempting title! Tennyson, Browning, &c! But what shall I take in hand first?"

Let me think a minute. Here is THOREAU'S "Letters to Various Persons." Take it and be delighted. He is the man, you know, who kept a mountain to climb as other people do a horse to ride. Only the mountain is imaginary, "anchored off eastward a little and spreads over a village or two." What a lover of Nature he was! What draughts he quaffed from her rich breasts! Close to her great heart he lived, ate drank, slept, worked, thought — everything. Read this first; I see father preparing a dose of History and Agriculture for you, but those books can wait. Here's FRED, too, waiting to show you his "Story of the Great March."—Well, it *is* interesting, very; but you don't want it to-night. Read THOREAU first. H. L. B.

For the Ohio Farmer and Cultivator.

THE FIRST SNOW.

Some careful and prudent wife dreads to have the stormy days come, "because the men are always 'round in the way, making more trouble with their pipes and newspapers than they are worth." Of course they must stay in the kitchen—the sitting room must not be entered by these nuisances with their muddy boots and so the scowl on the womanly phiz is contracted by the manly one also, and the persecuted set go off to the nearest cooper or black smith shop to spend the day.

The fashions of the world are changing so rapidly, we think it not good economy at all to be so saving of everything beyond the kitchen door. The children that are growing up now will not want the furniture or the carpet that now encumbers these rooms, as by the time they possess establishments of their own these things will be out of date, and if they move in medium society even, the old fashioned encumbrances will be thrust out, perhaps sold if they are salable, to make room for the newer styles; or if not this, they will be ignominiously thrust up into some back garret where those whom they care for will never see them. Therefere, we maintain that to save these articles to the best advantage is to make a pleasant and proper use of them.

Let the gentleman and his sons occupy a pleasant room away from the kitchen where they will neither be annoyed or annoying, while the wife and mother is busy with household duties. Put the pets in there with them —we think a household absolutely desolate without pets; what would "Poor Robin" have done upon his lonely island without his cats and his birds? Of course no one is to blame if they hav'nt our passion for animals, but we are not yet able to philosophize it out of our brain and call it simply a weakness, but confess to the conviction that there are objects less worthy of affection than an intelligent cat, dog or horse, which last when properly cared for is the embodiment of grace and nobility, though he must be excluded from the nooks which the other pets occupy.

This stormy day, also take the books down from the cupboard and let the boys dive into them to their hearts' content, undisturbed by fear of frowns and maledictions; then these days will not be so dreaded by old or young, they can thus be kept out of profitless company, and seeds of respect and affection be sown which shall spring up and bear their pleasant fruit for the parents against the time of need.

Let them, and encourage them to be "enflamed with the study of learning and the admiration of virtue; stirred up with high hopes of living to be brave men and worthy patriots, dear to God and famous to all ages." C. M. S.

PAINFUL INCONSISTENCIES.

Some men talk like angels, and pray with fervor, and meditate within deep recesses, and speak to God with loving affection and words of union, and adhere to him in silent devotion, ann when they go abroad are as passionate as ever, peevish as a frightened fly, vexing themselves with their own reflection; they are cruel in their bargains, unmerciful to their tenants, and proud as a barbarian prince; they are, for all their fine words impatient of reproof, scornful to their neighbors, lovers of money, supreme in their own thoughts, and submit to none. All their spiritual fancy is an illusion They are still under the power of their passions and their sin rules them imperiously and carries them away infallibly.—*Jeremy Taylor.*

Wealth is not apt to be modest; the face on a guinea never blushes.

ELEMENTARY EDUCATION.

BY MRS. JOSEPHINE C. BATEHAM.

So much has been said and written on the subject of the increased education demanded by the present age, that an impetus has been given to the cause of general education, which is certainly encouraging and praiseworthy, but while more attention is given to the higher branches of study, *orthography* is too frequently overlooked. How seldom do we find a *good* reader—one who articulates distinctly, pronounces correctly, and gives the sense perfectly. How few can converse in their mother tongue without violating the first principles of grammar, or write a page correctly.

All the high sounding *ologies* and languages but add disgrace to one who cannot write a letter to a friend without more or less misspelling and bad punctuation; for while great faults in capitalizing, and glaring deficiencies in spelling have often attracted our notice, punctuation seems to be considered as still less worthy of care. And this is true not only of the uneducated, but the "educated," if educated they can rightfully be called, when the first rudiments are neglected. No matter how much Philosophy and Latin and other studies may have been acquired, if these have been neglected, the education is sadly defective.

It is a disgrace to spell poorly, when common schools and spelling books are within the reach of all, and yet the accomplishment is so rare, that we count it a great merit in any one to spell and punctuate correctly. One should consider it a higher honor to be accounted a good speller and grammarian, than a good linguist, mathematician or musician. Many whose writings are intrinsically valuable and outwardly correct, otherwise, will yet blunder surprisingly here.

These studies should be especially encouraged among school children, and none should consider their common school education complete till these studies are mastered. Country spelling schools, when rightly conducted, are very useful in fixing a habit of correct spelling. The dictionary, too, is invaluable as an aid to good spelling—we should consider it worth even more as a speller than as a definer, and every family that owns more than one book, should own Webster's Dictionary as the second.

We especially entreat the girls, do not suffer so great a blemish in your education as an ignorance of the elementary department; whether you know much or nothing else, see to it that you acquire the rudiments thoroughly. And none who ever use a pen should consider themselves too old to learn. Keep the dictionary within reach, when writing, and examine every word, large and small, of whose spelling you have the smallest doubt, and the correct spelling will soon become fixed in your minds.

For the Ohio Farmer and Cultivator.

BBEAD.

BY CARRIE CLARK PENNOCK.

'Twas but the oft-told tale of want and woe,
The earnest pleading of beseeching eyes,
The weak uplifting of thin purple hands,
The feeble wailing of a babe's low cries;—
For death, and grief, and want, and fell disease,
Plied well their scourge; then, like a spectre grim,
Dread hunger came, and seared the bosom's fount,
Ate the last crust, and shrank the trembling limb.

Then went she forth, wrapped in her tatter'd garb,
Some faded remnant of a happier time—
For she had danced, and sang, with playful glee,
In other days, the ballads of the Rhine!—
But now—Oh, God! the pitying stars may gaze
On nought so sad—yet day by day revealed—
As the stern hand, to charity shut out,
And the cold heart, to human pity sealed.

Ah, mother! fondling with your snowy hand
The rose-tipped fingers of your darling boy,
You ne'er may know how want can blanch the cheek,
Or rob the blue eye of its sparkling joy;
But just beyond the marble at your door—
Aye, draw the broidered curtain—closer stand:
"'Tis but a common thing."—a cry for bread—
A weak outstretching of a feeble hand—

A pale gaunt babe, with wildly glaring eyes,
O'ershadowed by a face so wild and wan,
The Father stooped to pity, while the world,
Glittering and surfeited, passed idly on.
"Bread, only bread;" and the cold infant's hands
Clutching and tearing at her half-clad breast,
And *this*, where marble palaces look down,
And luxury reels wanton to her rest.

And are ye mothers, that in jeweled robes
Gaze at your images from mirrored walls?
And have ye babes that prattle at your knee,
Or spring to greet you in your regal halls?
Ah, they are beautiful, with rounded limb,
Rose-tinted, springing into joyous life,
And *he* was fair, that blue-eyed German babe,
'Till came disease with want and hunger rife.

"Bread, only bread;" and then the white lids closed
Like gossamer upon the violet blue;
The shadows deepened, and the fair moon rose,
And she, the wearied mother, slumbered too;
Ah, blessed Sleep, that robs us of to-day,
And brings again the memory of "the gone,"
For morn broke desolate, and touched her brow,
The mother wakened, but the babe slept on.

Young men who idolize young women, always long to be "joined to their idols."

The Housekeeper's Department.

For the Ohio Farmer and Cultivator.

WHY THE TIN SPOILT THE VINEGAR.

"Sun Bonnet," in a recent number of the *Farmer*, states a fact which every housekeeper was familiar with before, viz., that a tin plate, placed over a jar of pickles and pressed down under the vinegar, would, to use the language of "Sun Bonnet," render the "vinegar flat as dishwater." The bare mention of the fact, patent to every one, leaves the reader none the wiser for the perusal.

"Tom" certainly was deficient in a knowledge of the chemical properties of both the tin plate and the vinegar, else he would not have committed such a blunder. "Sun Bonnet" should have taught him that the tin plate was nothing more than a sheet of iron thinly coated with tin. And by the way of eliciting his interest, "Sun Bonnet" might have related to him that the greater portion of the oxyd of tin came from the old mines of Cornwall, in England, mines which have been worked since the days of the Phœnicians and Greeks. Small quantities of the metal have been procured in New Hampshire. In addition to this, that tin is a very ductile, laminable, malleable metal; that it is not easily tarnished, and furthermore that it, to a very great degree, *resists the action of acids*. That the tin ware in such common use, and which furnishes so many conveniences in the household arrangements, is made from sheets of polished iron, slightly coated with tin by dipping the sheets into vats containing the melted metal. This coating is very thin; and if a tin vessel is closely examined, the iron surface will be found to be imperfectly covered, and the contact of this surface to the oxygen of the atmosphere and the oxygen of the water produces rust, as the housekeeper would say. The affinity of the iron for the oxygen is so great that the former will attract the latter from the atmosphere when at a common temperature, and it will decompose water to satiate its greediness. Unless the housekeeper is very watchful, she will, to her great annoyance, find her shiny wares gradually putting on new robes of a rusty hue. The presence of moisture, and particularly of acid, rapidly promotes the oxidation of iron. The acid, in other words, acts as a solvent, and the substances are gradually decomposed, to the ruin of the plate, the pickles, and the vinegar.

Oxygen—the bane of the housekeeper's ease, and yet her life is due to its existence—is the most widely diffused and important of the elements. Silliman says that it forms one-fifth part of the atmosphere by weight, eight-ninths of the waters of the globe, and probably one-third part of the solid crust of the earth. It has the widest range of affinities of all known substances, and by its immediate agency combustion and life are sustained. The truly wonderful operations of vital economy are carried on by the silent agency of oxygen; and yet it was not discovered until 1774. By this discovery of Dr. Priestley's, the foundation of modern chemistry was laid. Oxygen maintains our physical vitality, and the combustion of our fires. Through its agency the muscles are exercised, and a "torrent of oxygen is poured incessantly into the material apparatus of thought, to carry forward certain physiological changes upon which thinking depends."

The breakfast could not be prepared without the aid of oxygen, and yet, beware! or the same agent will in the meantime destroy the dinner. The evening lamp would not shed its lustre without its help, but if the slightest crevice is discovered by it in your canned fruits, it will work destruction there. Through the agency of oxygen the vinegar is prepared for your pickles, and in the meantime it will sour the milk spared for the coffee. The blood is brought in contact with the air in the lungs, and from it the oxygen is obtained which fits it to sustain life; while, on the other hand, if the oxygen were inhaled in a pure state, the result would be inflammation and death. MARTHA.

SKATING COSTUME.

Now that the ladies have taken to the ice we copy the following information about the costumes of lady skaters as they appeared in New York:

The ladies were all dressed in neat costumes, consisting principally of dresses looped up a short distance above the balmorals, basquines, high-laced Polish boots, and Derby hats. One of the prettiest costumes that will be worn during the season, and one of which was to be seen at the Fifth Avenue pond on Saturday, consists of Turkish trousers, tight-fitting jacket, Polish boots, and high, turban-shaped cap, each article, except the trousers, trimmed with sable

For the Ohio Farmer and Cultivator,

ABOUT CELLAR KITCHENS.

In cities, where building room is estimated higher than human life, and where upper crust gentility keeps domestic labor in ague-breeding basements, the "poor lungs" do become familiar with all sorts of noxious gases—moral and otherwise, and it is no wonder the Great Destroyer is always supplied with recruits.

Some years ago, before we moved to our home in Hazel Dell, we had a cellar kitchen to our house, where it was said we could wash, make soap, and do such like dirty work. In this we soon got in the habit of cooking and eating breakfast "just to save the litter," and then when poor mother got feeble and not able to run up and down stairs so much, we took all our meals there, till finally Pa said such a musty cavern was not fit for man or beast. Then he put up a nice kitchen, on a level with the dining room floor, and we left the cellar to the joint occupancy of Puss and the rats.

About the same time my pet pony began to have weak eyes, and when I galloped her half a mile, she would tremble all over like a leaf; when before she would canter all the way to the Dell farm—six miles—and still be as lively as a cricket. Pa said it was nothing in the world but being kept in an underground stable, and it took some months after, before she was herself again.

It was just so with our Sunday School, which used to meet in the *a-basement* of the church. Many times after we had been sitting for an hour, the cold chills would creep all over us, and some of the children took the ague and were down sick. Our Superintendent finally concluded that such *earthly* associations were not calculated to promote a growth in grace, and we abandoned the mouldy place altogether.

Some people think that underground rooms are a sort of necessary evil, but I regard them as poor Poe did a certain kind of verses, in which sense must be sacrificed to rhythm, and of which he declared, it was a contingency which should *never happen*. I am opposed to cellar kitchens in every shape, whether under dwellings, barns or churches. Sun Bonnet.

Hazel Dell.

As reality is ever poor and shrunken by the side of imagination, so our sentiments and ideas lose their charm when clothed in language.

A LOVE FOR DRESS.

There are two sorts of love of dress, in the full sense of the word—one taste, the other passion; and these act on precisely opposite principles. The passion for dress, which is at once the expression of and stimulus to vanity, tends to all manner of illusions pervading in classes; in the first place to preposterous faith in its efficacy. Passion for dress leads to the ignoring of all unpalatable truths; it blinds a woman to her own defects, and consequently betrays her into betraying them; it deadens her to the harmony of things, and tempts the old and plain into humiliating self-comparison with youth and grace, deluding them into the notion that dress makes beauty—that the cowl makes the monk. This it is that tempts the poor into rivalry with the rich; into frippery—content with the barest seeming and rudest imitation; into spending their small means on the merest outside show. And in all cases passion for dress of this nature is excited, and kept alive by a mistaken view, often fatally mistaken, as to the objects to be pleased and attracted by the display, so that we might almost say that no woman will be too fine, or in any marked degree unsuitably attired, who is right in the eyes she wishes to satisfy, and who confines herself to her legitimate sphere of attraction.

Taste, on the contrary, can scarcely lead its possessors astray, and is indeed a moral guide It is full of reminders and admonitions, nor can a woman dress herself in perfect taste without a distinct knowledge of her personal defects. A hundred fashions are pretty and charming in themselves, but she knows these are not for her, and resists them. These are forbidden by something in figure, complexion, station, age or character, which, though not flattering to her vanity, she does not permit herself to forget.—Passion for dress is profane and extravagant; taste in dress is full of wise, philosophical economies, knowing that the merit of decoration is not to exhibit itself, but its wearer; that all the most splendid toilet has to do is to set off a noble, graceful and winning presence, and itself be lost in a pleasing or effective, or, it may be, a dazzling general impression. Passion for dress is always intent on what others will think—on taking some new eye by storm; taste is self-respect, and, before all things, must satisfy its own notion of propriety and grace.

The humble heart is God's second Heaven,

For the Ohio Farmer and Cultivator.

UPPER STORIES.

At farmers' houses and most other houses the sleeping rooms of those who labor are reckoned as of little account in regard to beauty of arrangement, if even comfort is taken into consideration. The good woman who takes her prayer-book and goes to church so regularly, wishing in her honest heart that some good might be thrown in her way to accomplish, might turn right back and cast a thought towards Biddy's chamber if it happens to be large enough to assume the dignity of the name. It is cheerless enough, surely; not calculated to elevate any fledgling notions of neatness order or beauty in Biddy's brain; carpetless, curtainless, and a good many other things—less. In most households, the room of the maid of all work is merely a place where they tumble in at night—the door being securely closed during the day, for what lady housekeeper would even like to have a visitor suspect that there ever existed in the house such a looking room as the one Biddy has to occupy. And of course, Biddy don't care. Habit, which has lately been so ingeniously treated of by the inimitable John B. Gough, has settled her ideas in that respect, and she crawls into her nest at night and out of it in the morning about as careless and unconcerned as a pig.

Of course somebody is ready to "wonder if anybody thinks they're going to furnish their servant's rooms in style?" Oh, no, not by any means, dear madam, but if you wish to do a little good in the world, as so many often wish, here is a right fine chance of it. If the room that Biddy has to occupy is very small, so much the more need of having the articles in it stowed away in order and compactness. A neat housekeeper will make it a rule to have no place in her house which cannot be seen without causing a blush to rise to her cheek after one o'clock in the afternoon. She will also make it a point to know whether the servant's rooms are likewise in order. She can awaken their interest in the matter, teach them that this is their domicil, (just as every one likes to have a little dominion somewhere,) and it will not be difficult for a housekeeper of any length of time to find something which she has no use for but which would enliven and improve Biddy's room very much, and waken in the girl's brain two or three ideas which will certainly benefit her and be of no detriment to her mistress.

There may also be some poor orphan boy in the house—here is a chance for doing good—fix up his sleeping nest a little so that it will look less cheerless, place a book where he will see it, and let it be of a title that will interes him; it will perhaps keep him from seeking company out of doors evenings. In this way you can write on the bare walls of a room more than perhaps you would say otherwise if you had the opportunity of being with and talking with them. They may not think of it till you begin the work, but once begun it will not pass unnoticed, and will be a little mite thrown into the great sea of little deeds of goodness which float among each other in harmony, singing like sea shells. More anon. C. M. S.

TO DISTINGUISH GOOD CALICO.

The cost of a yard of calico is a matter of considerable importance to the consumer who studies economy; but unfortunately there are those who in wishing to practice frugality, deceive themselves into the idea that because an article is low in price it must necessarily be cheap. The result of this is a demand upon the manufacturer for low-priced goods, and he to keep pace with the wants of his customers, introduces into his wares, when practicable, certain preparations calculated to hide the flimsiness of the products he is thus called upon to supply.

This system of "dressing and finishing." as it is called, is practiced at the present time at a greater extent than ever it was before, owing to the enormous advance in in the price of cotton of late years. The most common calicos are "dressed" with flour, china-clay etc., and are generally so artfully "filled" with one or other preparations as to be very deceptive to the inexperienced eye.

When, however, such a dressed fabric comes to be washed, the "extra fine finished," as it is not unfrequently called, disappears, leaving a a soft, flabby, and loosely woven texture in the hand, while the water in which it has been soaked is almost thick enough for bill-sticking purposes. The finest "makes" on the contrary, contain scarcely any flour, and should never appear any worse for a soaking in the wash-tub.

In order to ascertain to what extent a plain calico is finished, we have but to rub a smal portion of the piece to be tested sharply between the finger and thumb of each hand, for this "makes the powder fly." As the Manchester men say. If it be of the most common

quality, a quantity of "dress" will be extracted, and we shall soon see that the threads are left as far apart as those in a seive, crossing each other unevenly, and on places going off as it were, in tangents. Then, if we draw out a single thread and pull it asunder, it will be found to break with a snapping sound. If on the contrary, the calico is a good one, scarcely any dressing will come out of it on rubbing it; the threads will appear closely woven together; a single thread drawn out will rather burst then snap when pulled asunder, and the separated ends of such thread will present a fluffy appearance, while the whole piece will be firm and elastic to the touch.

For the Ohio Farmer and Cultivator.

A TALK ABOUT HOT WATER.

Little brother Frank came in intent upon sharing the benefit of the fire, to boil his pint of chestnuts. In promoting the enjoyments of those of tender years, there is a gratification which is its own reward, and of course the boy's request was readily granted, and Frank was cautioned to watch the vessel, that the water should not boil over. Child-like, he grew weary with watching, and in his play forgot his pledge. The work of ebulition suddenly commenced; over the heated surface of the stove the water danced and skipped, scattering the drops upon the polished linen. Frank, surveying the mischief his neglect had wrought, for a moment hung his head, and then looked up as though wondering what would be the penalty of the offence. Looking at his innocent face, we asked: "Frank, you are studying Philosophy, are you not?" He looked up with a cheerful countenance, as if to say, what has that to do with this dilemma? The question was repeated, when he replied in the affirmative. Another question followed: "Why did the water boil over?" The reply, as might be anticipated, was, "Because I did not watch it." "But suppose you had been watching it, and it had boiled over then, would you be able to tell why, when the water is heated to the boiling point, that a portion of it will escape from the vessel, as you have just witnessed?" The reasons were not altogether clear to his mind, and here was a fine chance to illustrate to an inquiring mind a philosophical principle; so we replenished the vessel and watched the process of heating and boiling. It was shown, that when water commences to boil, at first minute bubbles rise through it to the surface; that these bubbles consist of air, which is diffused to the extent of about four per cent. through all water, as it is found in nature. This air is expelled as the heating process is carried on. As the temperature of the water increases, or in other words as it is heated, then the bubbles increase in size, rise a little, and then disappear. These larger bubbles consist of steam or vaporized water, formed in the bottom of the vessel, this being the hottest part, because in contact with the flames; but as they rise through the colder water toward the surface, they are cooled and are condensed. When the heat of the water becomes uniform, or as nearly so as may be, the steam globules rise higher, and higher, and escape into the air.

Bodies are expanded by the agency of heat, but the expansion of liquids is far greater than that of solids. When water is heated to boiling, its bulk is increased one twenty-second: this expansion, together with the agitation produced when a portion of it is converted into an æriform state, or state of vapor, causes the liquid to overflow.

After this explanation, Frank had become so absorbed, that the cause of the damage and the chestnuts were alike forgotten; he said he had often tried to understand this part of his Philosophy, but the light had just broken in upon him. He then desired to know why the drops of water upon the stove danced off so hastily —why they did not dry up.

Water, brought into contact with a highly heated metallic surface, as the globules upon the stove, does not evaporate, but assumes a spheroidal state, a stratum of steam surrounds it and holds it up, so that really the water does not come in contact with the heated surface; and as the steam is a non-conductor, the heat is cut off; so when the temperature of the water falls, the steam no longer sustains the globules; hence the contact with the stove explodes the drops into vapor, or they skip off, as you observed. You were laughing awhile ago, because a wet finger was applied to the face of the flat iron when it was lifted from the heater. By this means the temperature of the iron is ascertained. If the temperature is low, the drop of saliva adheres, dampens the iron, and is evaporated or vaporized; but if it dances off the surface, the flat-iron is hot, and may scorch the linen, if caution is not exercised.

MARY DAY.

On the Farm.

HOW TO WASTE.

Much waste is experienced in the boiling &c., of meats. Unless watched the cook will throw out the water without letting it cool to take of the fat, or scrapes the dripping-pan into the swill pail. The grease is useful in many ways It can be burned in lamps mixed with lard; or when no pork has been boil with it, made into candles. When pork has been boiled alone it will do to fry cakes, if cleansed. Again bits of meat are thrown out which would have made hashed meat or hash. The flour is sifted in a wasteful manner, or the bread pan left with the dough sticking to it. Pie crust is left and laid by to sour, instead of making a few tarts for tea, etc. Cake butter is thrown out because but little is left. Cold pudding is considered good for nothing, when oftentimes they can be steamed for the next day, or as, in case of rice, made over in other forms. Vegetables are thrown away that would warm for breakfast nicely. Dish-cloths are thrown down where mice can destroy them. Soap is left in water to dissolve, or more used than is necessary. If Bath brick, whiting, rotten-stone, etc., are used much is wasted uselessly. The scrub-brush is left in water, pails scorched by the stove, tubs and barrels left in the sun to dry and fall apart, chamber pails allowed to rust, tins not dried, and iron ware rusted; nice knives used for cooking in the kitchen; silver spoons used to scrape kettles, or forks to toast bread. Rinsings of sweeet meats, and skimmings of sirup, which make good vinegar, are thrown out: cream is allowed to mold and spoil; mustard to dry in the pot, and vinegar to corode the caster; tea, coffee, pepper and spices, to stand open and lose their strength. The molasses jug loses the cork and the flies take possesion. Sweet meats are opened and forgotten. Vinegar is drawn in a basin and allowed to stand until both basin and vinegar are spoiled. Sugar is spilled from the barrel, coffee spilled from the sack and tea from the chest. Different sauces are made too sweet, and both sauce and sugar wasted. Dried fruit has not been taken care of in proper season, and becomes wormy. The vinegar on pickles loses strength, or leaks out and the pickles become soft. Potatoes in the cellar grow, and the sprouts are not removed until they become worthless. Apples decay for want of looking over. Pork spoils for want of salt, and beef because the brine wants scalding. Hams become tainted, or filled with vermin, for want of the right protection. Dried beef becomes so hard it cannot cut; cheese molds, and is eaten by mice or vermin; lard is not well tried in the fall, and becomes tainted; butter spoils for want of being well made at first. Bones are burned that would make soap; ashes are thrown out carelessly, endangering the premises and being wasted. Servants leave a light burning in the kitchen when they are out all the evening. Clothes are whipped to pieces in the wind, fine cambrics are rub on the board, and laces torn in starching. Brooms are never hung up, and soon are spoiled. Carpets are swept with stubs hardly fit to scrub the kitchen and good new brooms used for scrubbing. Towels are used in place of holders, and good sheets to iron on, taking a fresh one every week, thus scorching nearly all in the house. Fluid if used is left uncorked, endangering the house and wasting the alcohol. Caps are left from lamps, rendering the fluid worthless by evaporation. Table-linen is thrown carelessly down and eaten by mice, or put away damp and is mildewed, or the fruit stains are forgotten, and the stains washed in. Table cloths and napkins are used as dish wipers. Mats forgotten, to be put under hot dishes. Teapots melted by the stove; water forgotten in pitchers and allowed to freeze in winter; slops for cow and pig never saved; china used to feed cats and dogs on; and in many other ways a careless and inexperienced housekeeper will waste, without heeding the hard-earned wages of her husband; when she really thinks —because she buys no fine clothes, makes the old ones last, and cooks plainly—she is a most superior housekeeper. The next time an unthinking husband is disposed to be severe because some trifling matter has been neglected he "should put that in his pipe and smoke it." —*Household Encyclopedia.*

To Take out Corns without Pain.—One-half oz. of muriatic, one-half oz. of nitric acid, sal ammoniac and laudanum, the size of a small bean. When diluted drop some on the corn for two minutes; wipe off and take out the corn; you won't feel it. Be careful of the application it is *poison*; it will burn cloth if put on it.

Onion Pickle.—Take well dried onions of a good shape, small and round, peel them and throw them into salt water. Let them remain there a few days; drain them, put them in a jar and pour over them spiced vinegar.

TREATMENT OF GOLD FISH.

A globe will ever be the most popular domecile for these fish; we shall give a few directions respecting how they should be treated in it. When purchasing a globe, procure as wide mouthed a one as possible, and subsequently let it never be more than three-parts full of water. By these means you will secure as much air as possible for the fish under the circumstances. Keep the globe also in the most airy part of the room, never letting it be in the sun or near the fire. Change the water daily, and handle the fish tenderly when doing so. Some persons when changing use a small net, some the hand—we cannot say which is best, but would advise our readers to use that which they may find the handiest. Never give the fish any food; all they require when in a globe is plenty of fresh air and water—they will derive sufficient nutriment from the animalculae contained in the water. Numbers of people kill their gold fish by giving them bread. Now we do not deny that bread is good for gold fish, and that they will eat it, but the uneaten crumbs immediately get sour and deterioate the water, to the great injury of the fish.

Two diseases, being the most frequent, may be pointed out as the principal ills which it is the lot of gold fish to be heirs to. Sometimes a fish seems less lively than usual, and on close inspection have a mealy appearance, and in a day or two this mealiness will turn out to be a parasitical fungus. We have heard of several remedies for this mysterious disease, but never found any of them of the slightest use. There is absolutely nothing for it but to take the fish, at the first appearance of the disease, and throw it away; for it will not recover, and it will infect the others, and thus distroy the whole stock.

We would rather advise the inexperienced gold-fish keeper, whenever the fish seems unhealthy, to place it by itself for a few days; he will then see whether the fungus makes its appearance—if not the fish may recover and be returned to the globe. The other disease is apparently an affection of the air-bladder, arising from being supplied with too little air. We have found fish recover from it when removed from the globe and placed in a pond. When under the influence of this disease the fish swims sideways, and its body bent as if the back were broken, and in a short time dies. Whenever these symptoms are observed, the fish should be placed in a large tub of water, and a small stream of water allowed to drop into it; the water, through dropping, becomes more aerated, and the fish, thus receiving an abundant supply of air, will frequently recover.—*Sixpenny Magazine.*

For the Ohio Farmer and Cultivator.

ORDER.

There is something very pleasing about order in a household. A stranger entering a house will quickly form an opinion of its inmates, the female portion especially, by the aspect of the internal arrangements. We are no phrenologist, but confess to a belief in "bumps" and reason very plainly indicates that where persons are really deficient in a desirable "bump," they are more to be pitied than blamed, though if reasonable, they will try and overcome the natural defect by substituting an artificial habit of bringing about so desirable an acquisition as the art of order. With some this seems almost as much of an impossibility as with others a neccesity, and while the effect of the first is excessively unpleasant both to the inmates and to strangers, the latter is just as opposite and pleasant to each.

To keep an orderly household, it is not necessary to spend the most of the time in scrubbing and cleaning, in fact it is this continual upheaving of furniture and clutter of crockery that creates the confusion; but the moment that one thing gets out of order, return it to its place again; keep track of the little atoms of dust and disarrangement of articles, which will take but a moment to accomplish the work, and there will be no need of the surprise and confusion attendant upon the advent of unexpected visitors, or the dismay attendant upon some accident that may stalk unannounced into your dominions.

Persons thus orderly and quiet can leave their homes without bustle or confusion and return to them in the same way, while all that come and go, will carry with them a sensation of pleasure and delight, because, in the first place they will not feel that their unexpected appearance is an embarrassing surprise, or their going away an unflattering relief to their host and hostess; to the former we will go if weary and wanting rest, or ready to enjoy a healthy and pleasurable intercourse with our friends.

C. M. S.

A foe to God was ne'er true friend to man.

For the Ohio Farmer and Cultivator.

PUTTING UP A CLOTHES LINE.

We always had so much trouble at our house on washing days, to get the clothes line put up so as to hold the clothes until they were dry. We had a big nail driven in the post at the corner of the wood house, to which we tied one end of the line, then we took it to an apple tree, about four rods off, and gave it a turn around a limb, from there it was carried to the high post of the garden gate, and then brought back to the well curb. If it was a still, bright day, and the men folks were not at work in the yard we got along well enough, but sometimes the winds would blow and flap the clothes about, and being so far from the wood house to the apple tree, they would sweep the ground, unless we propped them up with a forked stick; in which case the whole streatch would sail over, just as a clipper's sail *jibes*, when the bow is brought into the wind's eye, as the sailors say: and after a few such summersets, the old line would give way, and let the whole washing down in the mud! Did you ever see a woman with a whole washing upset in that way? its of no use talking to her then!

Another trouble was, that the line from the gate to the well curb was right over the path from the barn to the house, so that the men in passing with the horses generally left their mark upon the clean clothes. We worried over these annoyances a long while, until "forbearance ceased to be a virtue," for we were growing wickeder every week, and Pa said he would see to it as soon as he had time; but it seemed to us the *time* never would come; so when he went to Columbus to stay a day or two, we bribed Billy—a good natured fellow, who is half a carpenter—to make a nice revolving frame—two cross sticks like an X, with a hole for a peg at the crossing to fasten it flat on the top of a post in the ground. The post is about as high as our heads, and all along on the tops of the cross sticks are pegs like those on a bedstead, about a foot apart, to hold the line, which is run around from one arm to another, almost like a spider web.

The arms of the cross timbers on our frame are about two yards and a half long from the post, and this will hold a large washing. When we carry out a basket of wet clothes we can set it down and hang one angle full, and then turn it around and fill another, without taking up the basket; and by hanging the sheets, &c., on the outside ropes, which are longest, we can get places for all, where they will not sweep the ground, or be in any body's way; and by turning the whole once in a while, the sun will dry them all alike. Pa was a little surprised when he first discovered what we had done, but when he saw how much better natured we were on washing days, he said there was more morality in a good clothes line, than he had imagined.

Hazel Dell, 1866. SUN BONNET.

IRONING.

All clothes iron more easily if taken from the line when just sufficienty damp to smooth well. If too dry they should be sprinkled and rolled into tight bundles and laid in a basket. Colored clothes should not be sprinkled until the ironer is ready for them; it injures the colors for them to lie damp. For every ironer there should be a large stout table, covered with a thick, double, blanket and overlaid with a clean sheet. The skirt and bosom board should have two or more layers of woolen cloth tacked on them smoothly, and then be covered with a close fitting case of strong, smooth white cotton.—Silks, worked muslins, tucked skirts, and all raised figured goods should be ironed on the wrong side if possible. Most other clothes are ironed on the right side. The most particular parts of a garment should be ironed last.—Pantaloons should have a fold up in front o the leg. Skirts need have no fold made if ironed on the skirt board, which is slipped into them. If ironed on a table, the fold should be at the side.

There are a variety of fluting and crimping irons for doing up ruffles in different styles.—These are usually hollow, and have a heater which fits in them, and are used by the printed directions accompanying them.

Silks and woolens should be pressed with a very uniform heat, as they are apt to change color, and will look spotted without extreme care.

Velvets should be damped, and have the wrong side run over the face of the iron, not be pressed under it—the last practice is ruinous.

Clothes should be perfectly dried before folding and putting away. Damp clothes smell disagreeable, and are very injurious to the health of the wearer.

The best prize is judicious enter-prize.

For the Ohio Farmer and Cultivator.

WATER---ITS HISTORY AND ITS PROPERTIES.

The readers of the *Farmer* may pause at the caption of this article, and wonder what can be said upon a subject already so familiar to all The history of this remarkable compound, water, is full of interest, and its properties are wonderful indeed. In considering it for its utility alone, the hand of Infinity is traceable in its wide diffusion. As a source of prosperity and wealth to the world, its importance is incalculable. As a motive power, it sets to work huge machinery, and enables the manufacturer to perform his labor with facility and with comparatively little expense.

About the commencement of the Christian era, it is said to have been first used as a motive power by the Romans in a simple machine for the purpose of grinding grains. It would be both difficult and tedious to attempt an enumeration of its appliances to machinery to-day.

The chemist tells us that water when "pure is a colorless, inodorous, tasteless fluid, which conducts heat and electricity very imperfectly, refracts light powerfully, and is almost incapable of compression. It is the standard of comparison for all densities of solids and liquids.' Water abounds upon the earth; it covers two-thirds of the globe, and constitutes three-fourths of the plants and animals. The water of the sea is so impregnated with salt that its specific gravity far exceeds that of the lakes and rivers; a vessel passing from fresh water to the sea, draws less water, that is, the vessel does not sink to such a depth.

According to a general law, nearly all solids and liquids are expanded by heat and contracted by cold. There are some exceptions to this general law, and water perhaps offers the most remakable example. Silliman says that each solid or fluid expands or contracts an equal amount for every like increase and reduction of temperature, each body having its own rate of dilitation, (or in other words, opening and spreading out in all directions.) The habitability of the globe depends upon the exception of this general law, of which we have spoken. When the extent to which water is distributed is considered, the wisdom of the arrangement by which it is made to part with heat so slowly, and receive it so tardily, is truly striking. By way of illustration, supposing the vast bodies of water, the oceans, lakes and rivers, and the water of the human body, of which eighty per cent. is found in the blood, responded to the changes of temperature, that is, acquired and lost heat as readily as alcohol or mercury? The changes from heat to cold would be inconceivably more rapid than now, and the slightest changes of temperature would pe prolific of fatal results. The seas and rivers would freeze and thaw with corresponding facility.—As it is, the large amount of heat accumulated during the thermal season, is given out at a slow rate, and the climate is modified or moderated, and the transitions from heat to cold are gradual.

As water cools from its boiling point, which under ordinary circumstances is 212, (this, however, is subject to modifications,) it contracts, and consequently increases in density, until it is of a temperature seven degrees above the freezing point, (its freezing point is 32,) below this temperature it expands. If the water continued to increase in density as it approached its freezing point, the ice formed would sink, another layer of ice would be formed, which would also sink, and this process continued, a huge body of ice would be formed which would require a long period of hot weather to dissolve.

Every household can attest to the expansion of water as it congeals, in the experience of pitchers and so forth broken by being left to the tender mercies of freezing weather. The force of the expansion is very great; an iron plug weighing three pounds, closing a bomb-shell filled with water and permitted to freeze, has been thrown fifteen feet by the expansion.

Water is 828 times heavier than air, that is, it would take 828 cubic inches of air to weigh as much as one cubic inch of water. It is upon this principle that air tight compartments are placed in different parts of life boats; by this means the boats are rendered so buoyant that they cannot sink, even though filled with water. Life preservers are made upon the same principle. Many kinds of fish are filled with bladders which they can fill with air or exhaust at pleasure, hence they can increase their specific gravity in an instant, and rise or sink accordingly.

The specific gravity of the human body is less than water, and it will continue to float so long as the head is kept in a position to keep the mouth above the water, even if a person cannot swim; but if the air is expelled from the lungs and water takes its place, the specific gravity causes the body to sink. It is true that

the body of a person drowned will rise to the surface after it has been some time under water, but this is due to the gases generated which diminish the specific gravity.

Water is composed of two gases, hydrogen and oxygen, in proportion to two of the former to one of the latter. The chemist has truly said "it is the most remarkable compound, whether contemplated in its purely chemical relations, or in reference to the wants of man."

It is never found pure in a natural state. This is demonstrated by evaporating a portion; there will be a residue of saline matters which were held in solution. It is only obtained pure by distillation, that is, it is reduced to a state of vapor by heat, and condensed by cold.

All water fit for the use of man has dissolved in it carbonic acid and atmospheric air, without which it would be unpalatable; by boiling, however, these are driven off, and the liquid becomes "flat and mawkish."

Rain water which falls after a protracted rain, remote from dwellings, is the purest found in nature, excepting snow water; the latter falling in a congealed form is incapable of absorbing atmospheric gases.

Under certain circumstances, water will be found pregnant with animal or vegetable life; if it is alkaline, *animalcula* will be produced—if acid in its nature, *fungi* will be discovered. These living things are not found in rain, spring or well water, but prevail in cisterns, reservoirs, &c.

As a cleansing agent Youmans says "it is the most important and universal of the agents of purification employed by art. It is so essential to life, that where men dwells it is always found, and is supplied by the hand of nature with a copiousness equal to its necessity and value. Water cleanses by its mechanical action in carrying away dirt and impurities, and also by its power of dissolving them. While it possesses the power of dissolving a great number of substances, it is at the same time so mild and neutral as not to injure the objects to which it may be applied."

On the Farm, December. MARY DAY.

Even sorrow, pressed secretly in a man's own breast, hath a sweetness which he would not willingly lose.

The young woman who was "driven to distraction" now fears that she will have to walk back.

A WAY OF SALTING BEEF.

For 100 pounds of beef take four quarts of salt, four pounds of good brown sugar, and, if you wish for saltpetre, you may put in one ounce. When the beef has all its animal heat out, cut it into pieces as near alike in size as you can, that it may pack even in the barrel. Sprinkle some sugar and salt over the bottom of the barrel, then rub every piece of the beef with the sugar and salt, and pack in the barrel as solid as possible; pounding down with a solid hardwood stick, as you fit in the layers. Before pounding, however, place a piece of board under the barrel and inside of the chine, for fear of forcing the head out. When you have completed packing, pound the surface on top as even as possible, and if you have a mind to add one or two pounds of sugar on the top you can, as there is no danger of hurting it with sugar; but be sure and not add but four quarts of salt to 100 pounds of beef, and no more than one ounce of saltpetre; and if you dislike it, you may omit the saltpetre entirely. But, above all, be sure that a drop of water never enters it. After putting either a flat stone or a piece of hardwood plank on the meat, fit a stout stick or piece of joist from this cover to the beam overhead, and drive in a wedge over the standard. This wedge will want starting a little, once a day, for two or three days, as the meat settles; in forty-eight hours the meat will be covered with brine.—When the meat is all used, the brine may be boiled and skimmed, put in a tight vessel and kept for future use.

After meat put up in this way has been kept two weeks, there is no change in it for one year. These facts I know from forty years' experience. I think if beef was put up in this way for ships' crews, it would add greatly to the comfort of our sailors.—*Cor. N. E. Farmer.*

We do love to see a tear in the eye of a lovely and refined woman; for we cannot imagine a more beautiful water in such a diamond, a more golden rain, or a more splendid magnifying lens for the heart.

Some people are never abreast of the age—they dive into the stream of the past and don't come up again—their heads stick in the mud at the bottom.

A foe to God was ne'er true friend to man.

Department for Young Folks.

For the Ohio Farmer and Cultivator.

OUR FARMER BOYS.

BY J. FLETCHER GREENE, ERIE CO., O.

How shall we educate our young men? This is a question which is continually being asked by the intelligent farmers of our country. In this advanced age of the world, every one understands full well the value of a good education. Happily for us, we are not called upon at this period in the world's history to prove its utility, or establish the truth that "Knowledge is power!" rather let us leave this useless discussion with those who lived in the nomadic ages, when ignorance reigned supreme, and superstition swayed the minds of the deluded.

The education, moral and intellectual of every individual is mainly his own work; we thus become emphatically the architects of our own fortunes. It is true in these days of seminaries and colleges, we are very materially aided in this work, but still chiefly upon ourselves depends the cultivation of the mind and heart, the expansion of the intellectual powers, and the master stroke of placing upon all our acquirements the cap-sheaf of success and eminence. If we gain at last the top of the temple of science, and pluck bright laurels from the pinnacle of fame, it will be because we have applied our minds to study, and sought by many hours of labor to reach the goal of our ambition.

Taking this as the basis of a few remarks, we wish to elucidate a few thoughts in connection with the education of our farmer boys. As citizens of one common country, we have a common interest in the proper training of the young men of our land who are in future years to control the affairs of the nation. Chief among this to-be-envied class in point is numbers, and we safely say without boasting, in point of importance, ranks the young farmers. Destined as they are to wield such an incalculable power, how important that that power shall not be subverted; that the important trust confided in them by the people of this great nation, in the order of events, shall be held sacred, and be transmitted to coming generations with renewed lustre and increased value. We are glad to see that our late General Assembly was not entirely insensible to the educational merits of this class of their constituents. Happy are we that at their late session they made such arrangements, as will doubtless greatly facilitate the education of our young men in the science of Agriculture. An Agricultural College, liberally endowed, the professor's chairs filled with able, energetic men, and supported by the patronage of a generous public, will do much towards raising the standard of education in our State, and advancing the important work of instilling into the minds of the people that, in the language of Washington, "Agriculture is the most pleasant, the most healthful, and the most useful occupation of man."

But we do not wish to have it implied that theoretical farmers will raise corn, wheat, &c., by sitting in the house, and studying their books and making no effort to labor with their own hands; by no means. However much we advocate theory, or however much we may value a good sound mind, whetted as it has been by coming in contact with abstruse science, still it is only work—muscle work which insures our bread. It is only by practice, that we become perfect in any department of labor, and especially is this true in regard to farming. Theory is all very well in its place, but it will never plow our ground, or garner our harvests.

These long winter evenings are suggestive of much which we may do in the way of improving ourselves. Our minds should not be forgotten, now that the body or muscles are freed somewhat from the more laborious duties of the field and garden. How many, around the dimly lighted candle, have gathered food for the mind upon which it might feast for many days! How many in the long list of illustrious names which men delight to speak and honor, have begun their illustrious career here amid the scenes of home. It was here that they were taught those principles and virtues, which clustered in their characters and raised them in moral stature above their follows. Here they were taught those long reaching thoughts which caused them in after years to

> "Pluck bright honor from the pale-faced moon,
> Or dive into the bottom of the deep,
> And drag up drowned honor by the locks."

And here we gain strength to perform those hardy achievements with prowess, which are to enroll our names among the great and good of earth.

The very thing men fear is often brought to pass by the means they use to prevent it.

YOUNG FOLKS AT HOME.

BY MRS. JOSEPHINE C. BATEHAM.

At this season of holidays and of social gatherings, we trust that none will think it out of place for us to give a chapter on sports and pastimes for the young folks. There is a tendency among American farmers, as well as business men, to become prematurely old, from an excess of labor and care; and as one means of checking this evil, we advocate an increase of social recreations—and this, too, not only for the children and youth, but also for the older people. Let them all join occasionally, at least, in mirthful sports, and verify the old adage that

"A little laughter now and then,
Is useful to the best of men."

Especially we hope that during the long winter evenings, the young folks will have many a right good time together. And as we have noticed that sometimes there is a lack of amusements at these gatherings, we propose to enumerate a few games or sports that may be of service to those whose especial duty it may be to provide entertainment for their youthful friends and neighbors. Some of them are doubtless familiar to our readers, and we claim originality for none.

THE HUNTSMAN. This game is one of the liveliest winter evening pastimes that can be imagined; it may be played by any number of persons above four. One of the players is styled the "Huntsman," and the others must by called after the different parts of the dress or accoutrements of a sportsman; thus, one is the coat, another the hat, others the shot, shot-belt, powder, dog, gun, etc. As many chairs as there are players, excluding the Huntsman, should next be ranged in two rows, back to back, in which the players must take seats. The Huntsman then walks round the sitters, and calls out the assumed name of one of them—for instance, "gun," when that prayer immediately gets up, and takes hold of the coat skirts of the Huntsman, who continues his walk, calling the others, one by one; each must take hold of the skirts of the one before him, and when all are summoned, the Huntsman runs round the chairs as fast as he can. When he has run around two or three times, he shouts "bang," and at once sits down on one of the chairs, leaving his followers to scramble to the others as best they can. Of course one must be left standing, for want of another chair, and this one is to be the next Huntsman, or if preferred, he may pay a forfeit.

The "Shepherd and the Wolf," "Hunt the Slipper," and "Puss in the Corner," are of the same kind, and more generally known. "Blind Man's Buff," in its various forms, is another good one. The modification called "Shadow Buff," is perhaps new. A sheet is hung up, and the leader of the game sits on a low stool before it, and the candle is put on a table behind him. The company then pass in procession between the candle and the leader, who is not allowed to turn his head *at all*, but must name each person passing, by his shadow on the sheet. All will disguise themselves of course, and the mistakes made in the guesses afford much amusement.

THE RULE OF CONTRARY is very simple. All the players, standing up, take hold of the sides of a handkerchief. The president of the game (taking hold with the rest) makes circles on the handkerchief with his finger, saying, "Here we go round by the rule of contrary; when I say 'hold fast,' let go; when I say 'let go,' hold fast.' He then says either one, as he may choose.—When he says "let go," those who do not hold fast pay forfeits; when he says "hold fast," all who do not immediately let go, pay forfeits.—It may be thought that few will be caught by so simple a game. All such had better try it.

MY GRANDMOTHER'S GARDEN. A circle is formed, when one begins by saying, "My grandmother's garden is a beautiful garden. In my grandmother's garden there are four corners." The next repeats the same, and so on around the circle, the slightest mistake being afterward punished by a forfeit. The first speaker then repeats what has been previously said, adding, "In the first corner there is a rose tree—I love you to distraction." The others now repeat the whole as before; the leader again does the same, adding, "In the second corner there is a sunflower—I would kiss you, but I am afraid." After the third turn, he adds, "In the third corner there is a peony—Tell me your secret."—Each player then whispers whatever he pleases to his next neighbor. After the fourth turn, the leader adds, "In the fourth corner there is a poppy—Tell me what you whispered to me just now." The fifth time around, each one must add to the whole oration, the secret he has whispered to his neighbor, which furnishes much amusement. The forfeits can then be announced.

Editor's Table.

OUR SALUTATION.

Herewith we have the pleasure of presenting the first No. of Volume XXII of the OHIO CULTIVATOR. Our old subscribers will find the make-up of the paper a little different from what they have been in the habit of seeing, in that we have been more particular in the use of matter relating to the immediate surroundings of the House and Garden, and given more space to Domestic and other matters of family and personal concern. We do this in pursuance of a desire to cultivate the people as well as the soil, and to give the house-keeper equal attention with the men who work the farm. We hope all our present readers will do us the favor to call the attention of their friends and neighbors to this fact; and since the OHIO CULTIVATOR is much the cheapest paper of its class in America, we shall look for its introduction among all people who desire the best low priced paper in the world devoted to rural and domestic affairs. We must depend entirely upon the good will of the public for this introduction, since we shall do our part in furnishing such a paper at such a low price. No other paper of this quality is published for less than a dollar a year, while the OHIO CULTIVATOR can be had for only fifty cents, or eleven copies for five dollars. Will our young friends show this copy to their neighbors, and make up clubs for the year. A little effort of this sort will procure for us a host of new subscribers, and greatly enlarge the sphere of our usefulness.

THE HOME JOURNAL.

There is very much that the editor *must* read professionally, but there is still a class of reading which we reserve for the home fireside, for our intellectual improvement and entertainment. We have been for many years a reader of the HOME JOURNAL, and take pleasure in endorsing the commendations of the Phila. Publishers' Circular for Jan., when they say that the most useful class of all these issues is the tasteful and elevated weekly paper, which is now received into the family, is read carefully by all its members, and exerts upon the home circle, the gentle influences of taste and cultivation, of racy thought and pure expression. A fine illustrative type of this class is "The Home Journal," published by Messrs. N. P. Willis & Morris Phillips, New York. Mr. Willis has a national reputation as a veteran writer. In all that is graceful, genial and polished, he has but few superiors as an author and journalist. Hence the *Home Journal* is marked by a pervading tastefulness. It is especially happy in dealing pleasantly with light and agreeable subjects—Its sketches of art, fashion, amusement, books, music, matrimony and society, are always sparkling; and its facetiæ, gossip, and paragraphs of all sorts, are ever entertaining. The arrangements of Messrs. Willis & Phillips for the coming year include a number of valuable and effective improvements, and the *Journal* is in all respects just the paper for the cultivated and refined social circle. Terms, $3 a year in advance.

BARK FOR TIES.

Gardeners, fruit raisers, and many other people engaged in works about the homestead, have frequent need to use some sort of material for ties, as in fastening up grape vines, berry bushes, &c., and market gardeners have constant need of string to tie up bunches of vegetables, in their season of growing and marketing. Persons in need of such ties, should provide a plenty of them in their seasons of leisure, and when the material can be had most conveniently, so that when the time arrives for use, they may not be hindered by the necessity of going abroad to seek for them, and thus consuming valuable time which is needed for more urgent labors.

For many purposes where a cheap tie is needed, there is nothing better than the bark of certain trees, the strongest and most durable of which is the inner bark of the pawpaw tree, a fine shred of which seems to have almost the tenacity of an iron wire. A good way to obtain a supply of this material is to go now to the places where this tree grows and cut some of the poles—say two or three inches in diameter, take them home, and with a draw-shave take off the rosa or outer bark, then shave off long strips of the inner bark and tie them up in bunches of different lengths, ready for use in the time of need. The bark of the paw-paw is very hard, and when wanted for use must be well soaked in water to soften it so it will tie.

As reality is ever poor and shrunken by the side of imagination, so our sentiments and ideas lose their charm when clothed in language.